AN ARCHAEOLOGICAL RECONNAISSANCE OF THE MAROON CLIFFS, EDDY COUNTY, NEW MEXICO

By
Winston Hurst

With a Contribution by
J. Loring Haskell

Agency of Conservation Archaeology
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AN ARCHAEOLOGICAL RECONNAISSANCE OF THE MAROON CLIFFS, EDDY COUNTY, NEW MEXICO, FOR THE BUREAU OF LAND MANAGEMENT, ROSWELL DISTRICT OFFICE

(Solicitation No. YA-510-PH6-118)

by

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With a contribution by

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Edited and Submitted by

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14 October 1976

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ABSTRACT

An archaeological survey of the Maroon Cliffs area, Eddy County, New Mexico, was recently completed by the Agency of Conservation Archaeology. This report includes description and discussion of the findings of that survey, as well as environmental information and a summary of previous archaeological investigations in the area.

The survey involved 6½ sections of B.L.M. administered land, 3 of which were intensively examined and 3½ of which were extensively sampled. Sixty-seven sites were recorded, yielding evidences of Archaic, Jornada Mogollon and twentieth-century American occupations. Due to the removal of diagnostic artifacts by natural and human agency, it is not possible to make meaningful statements regarding changes in site location and density through time. It is suggested that the Archaic and early Mogollon occupants were seasonal visitors, whereas the late Mogollon occupants resided more-or-less permanently in the vicinity. All prehistoric occupants are believed to have exploited the area for hunting and gathering purposes, with an increasing reliance on horticulture during the Mogollon occupation. The need is recognized for a program of subsurface testing in order to test these and other hypotheses and to supplement the findings of surface survey.

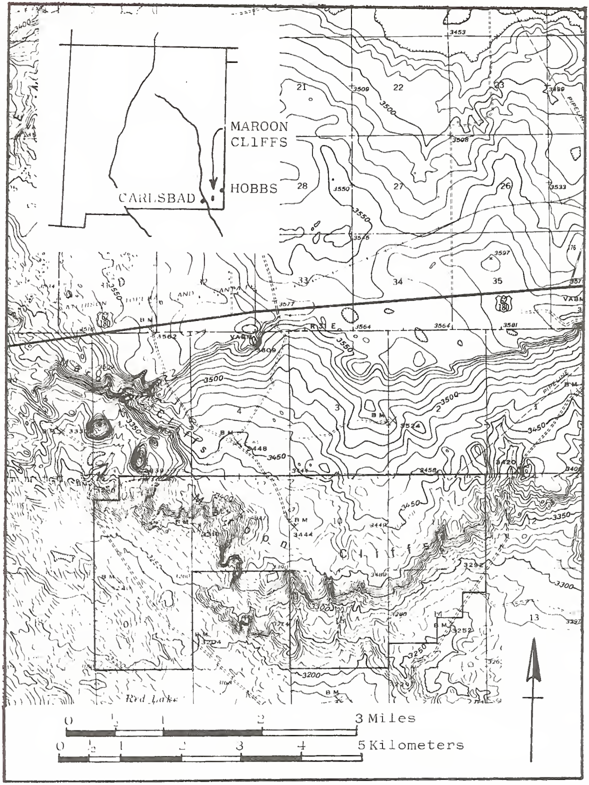

Fig. 1: Map showing location of survey (adapted from U.S.G.S. Nash Draw and Clayton Basin Quadrangles, 15 minute series).

INTRODUCTION

The Agency of Conservation Archaeology, Eastern New Mexico University, Portales, New Mexico, recently completed an archaeological survey in the Maroon Cliffs area east of Carlsbad, New Mexico, on lands administered by the Bureau of Land Management (Permit No. 76-NM-003). The area surveyed covers approximately 6½ sections, 3 of which were surveyed intensively and 3½ of which were extensively sampled.

The Maroon Cliffs area, which has long been known for its wealth of archaeological remains, has attracted the interests of the potash industry. A number of applications have been submitted for prospecting and potash leases there, and the Mississippi Chemical Corporation has proposed construction of a new refinery facility in the heart of the area surveyed. In order to comply with Executive Order 11593 and to obtain the data necessary to ensure the protection of any valuable cultural remains which may be present, the B.L.M. determined to obtain an archaeological site inventory of the area. The present survey is the result of that decision. It was initiated at the request of, and under contract with, the Bureau of Land Management and was administered by Mr. Charles Godfrey of the Roswell District of the B.L.M., and Dr. J. Loring Haskell, Operations Director and Principal Investigator, Agency of Conservation Archaeology.

The field work was accomplished between July 28 and August 15, 1976, by crew chief Winston Hurst, with Miles Linnabery, Gregory Komara, Charles Nelson, Jeffrey Nielsen, Dan Landis, and Ed Mimiaga functioning as archaeological assistants. Dr. Haskell accompanied the crew for approximately one week.

DEVELOPMENT OF ARCHAEOLOGICAL RESEARCH IN SOUTHEASTERN NEW MEXICO

Theoretical Considerations

Although southeastern New Mexico has traditionally been excluded from the Southwest Culture Area by archaeologists, evidence accumulated over the past quarter century clearly establishes its linkage. Anthropologically, the Southwest has long been held to commence at the Pecos River; consequently, the country comprising the present investigation has been considered as belonging to the Plains both physiographically and culturally. In actuality, however, the cultural Southwest undoubtedly impinged on the study area for perhaps as long as several millenia owing to the nature of local floristics and faunistics. On its southwestern flank, the Llano Estacado, or "the Caprock," tends to break down and locally becomes somewhat diffuse in contrast to its well-demarcated western margin north of U.S. Highway 62-180. This region as a whole, although not readily traversed on foot because of coppice dunes and active dune fields, nevertheless, was tapped for its exploitable resources on a systematic basis by both Archaic and Jornada Mogollon peoples. In general, evidence of their occupancy lies below the Caprock; however, there

are several localities just above the escarpment where similar archaeological resources are encountered as in northeastern Chaves County.

Culturally, southeastern New Mexico has been considered, in some quarters of the anthropological profession, to be a slough, or backwater, vis-à-vis the higher cultures of the Greater Southwest. Thus, it is frequently referred to in the literature as being marginal or peripheral. As a consequence of this attitude, it has remained poorly known archaeologically as have other similarly designated areas such as the Fremont and the Hakataya. In each instance, workers of Boasian persuasian have looked upon these cultures in terms of the presence or absence of specific traits--and hence diffusion. Anthropologically, every culture is considered to be unique. Archaeology, as one of the sub-disciplines of anthropology, must similarly view archaeological cultures in the same light. If southeastern New Mexico archaeology is thought to be marginal, and this colors the fieldworker's methodology and research design, the uniqueness of local cultural development obviously will be missed. In southeastern New Mexico, as well as elsewhere, archaeological cultures must be investigated in terms of the concept of adaptation. Man is a bio-cultural organism and as such belongs to specific cultures. Cultures are adaptive; consequently, they have to be, indeed they must be, examined in these terms.

In the Boasian milieu, there is little justification to study areas such as southeastern New Mexico once the basic chronology is established and developments there can be explained in terms of the expansion or contraction of Puebloan culture in the Rio Grande Valley or whatever. Thus, it is not surprising that southeastern New Mexico has remained, relatively speaking, poorly known down to the present day.

Early Investigations, 1930-1950

Archaeologically, southeastern New Mexico remained *terra incognita* until the late 1920's. About that time, a number of investigations (Roberts 1929; Howard 1932, 1935; Conklin 1932; Burnet and Bohannon 1937) were launched, principally at cave sites on the western slopes of the Guadalupe Mountains. This sudden surge of interest in the archaeology of this region is attributable to a paper by Baker (1924) in which he reported on the caverns of the Guadalupes. Reporting on his findings, Roberts (1929:14) noted a general likeness between cultural resources in the Guadalupes and those from cave sites in Coahuila. Howard (1932), while working at Burnet Cave, recovered several Basketmaker-like burials as well as fire hearths. With the continuation of excavations at this site, a rich, Pleistocene-aged, faunal assemblage was discovered. Although not associated with either faunal remains or other cultural remains, Howard (1935) did find a solitary Folsom point at this site.

To date, this discovery is the only one reported from any site in the vicinity. Local collectors claim to have found Folsom points at various localities in southeastern New Mexico; however, these finds have been of an isolated nature. Howard's discovery, as might be imagined, stimulated interest in Early Man inquiries in the Guadalupes as evidenced by the published account of Conklin's work the same year. Working at Bishop's Cap Cave, Conklin (1932) noted the presence of large amounts of sloth bone but no artifactual resources.

Along with the Folsom point, Burnet Cave yielded 5 burials of which 4 were cremations and the fifth a primary inhumation. Coiled basketry and "fish-tail" type sandals were also taken from this site (Howard 1935:68). Work continued at Burnet Cave for 3 seasons, during which time Howard conducted a series of intensive archaeological surveys on the eastern slopes of the Guadalupes. This later work continued until 1935 when significant discoveries made at Blackwater Draw resulted in the abrupt termination of this work (Burnet and Bohannon 1937). Thereafter, Howard devoted most of his energy to work there rather than in the Guadalupes. Work at Blackwater Draw ultimately revealed the sequence of cultural events in terminal Pleistocene times on the Llano Estacado. Folsom points are associated with a now-extinct species of bison and follow the Clovis points in time. These latter points typically are associated with mammoth remains. In the project vicinity, mammoth remains are known from Nimenim Ridge; however, they have

not been associated with the activities of man (Balgemann 1976: personal communication).

During this period, the then recently established Laboratory of Anthropology at the Museum of New Mexico reconnoitered a vast region of the eastern Guadalupes as well as lands lying east and west of the Pecos River (Mera 1938). On the basis of this work, Mera was able to establish 3 types of manifestations in the area, viz., open sites east of the river, ring middens and mescal pits west of the river, and cave and rock shelter sites in the Guadalupes. Reporting on the nature of sites east of the river, he noted the presence of large amounts of brownware as well as sandstone metates and manos. In general, these sites are situated in duned areas and are subject to colluvial movement. West of the river, however, sites are of a different order. There the typical site is a ring midden or mescal pit. As used by Mera, the term "ring midden" is used to refer to stone rings which lie totally on the surface. Mescal pits, as the name implies, involve the actual preparation of a pit over which boulders are heaped, often to a height of 3 to 6 ft. Invariably, ceramics are associated with each of these types and include the same wares.

Despite the scope of Mera's work, he was not able to establish the presence of domesticated plants in the area of his survey. With respect to the cave sites in

the Guadalupes, there is little evidence which bears on subsistence activities as a whole. These sites, particularly those on the eastern flank of this range, exhibit a dearth of both cultural and faunal remains. Ceramics are scarce, metates are not particularly well represented, and projectile points are not evidenced in any great numbers. Faunal remains, when they do occur, consist of antelope, jack rabbit cottontail, mule deer, prairie dog, mountain sheep, porcupine, badger and rat (Mera 1938:49). At Mera's cave and rock shelter sites, ceramics were limited to 22 potsherds. These wares include Chupadero Black-on-white, El Paso Polychrome, and plain brownware (Mera 1938:60). In an attempt to reconcile his data, Mera (1938:67) stated that

> . . . it would not be beyond the bounds of reason if camp sites east of the Pecos might eventually prove to be a closely related cultural phase, as the stone work and pottery complex of all three classes of sites are almost identical. The obvious difference lies in the absence of metates in caves and circles, but this could be accounted for by differences in the character of food resulting from environmental factors.

Elsewhere, Jennings (1940) investigated 3 sites in the Rio Peñasco drainage which he attributed to a variant of the Mogollon culture. These sites were distinguished by the presence of bona fide pit houses, ceramics, milling stones, end-scrapers, retouched flakes, points, carbonized basketry, and several bone awls (Jennings 1940:3-9). In addition, Peñasco Bend yielded evidence of carbonized Zea mays (Jennings 1940:9). This site,

William's Cave (Ayer 1936) in the extreme southern Guadalupes, and Jelinek's sites in the Middle Pecos are the only manifestations in the area to produce evidence of domesticated plants. As for pit houses, they had been pecked out of the caliche surface to a depth of 12 to 18 in. Although direct evidence is lacking, construction probably was a wattle-and-daub or jacal type. Pottery includes El Paso Polychrome, Mimbres Black-on-white, Three Rivers Red-on-terracotta, Chupadero Black-on-white, St. Johns Polychrome, and an unidentified brown ware which Jennings (1940:5) notes was the most commonly occurring type. Several burials were encountered during the excavation with the deceased being placed in a tightly flexed position with a bowl inverted over the face. Temporally, Jennings (1940:10) assigned these sites to the period between ca. A.D. 1150-1300 and considered them to be closely related culturally to developments in the Tularosa Basin.

Following Jennings' work, archaeological investigations during the 1940's in southeastern New Mexico were largely limited to cave sites in the Guadalupes. Unquestionably, the most significant project during that decade was Ferdon's (1946) excavation of Hermit's Cave. Cultural resources there included a large number of sandals, coiled basketry, digging sticks, an atlatl shaft, an arrow shaft, a fire drill, oval-shaped basin metates, and single-hand

manos (Ferdon 1946:24). Pottery, although found at Hermit's Cave, was scarce and limited to the upper level of cave deposits. Types include Chupadero Black-on-white, Lincoln Black-on-red and an unidentified brown ware. Three distinct levels were identified at this site with an additional fourth level being a distinct possibility. Owing to the nature of the cave's lowest deposits, it is debatable as to whether or not it constitutes a distinct level. It consists solely of a single hearth with no associated cultural or faunal remains. The next level is distinguished by artifacts which are similar to those recovered by Howard at Burnet Cave. The one exception is a unique squared-toed sandal made from 2 lechugilla warps around which were woven wefts of yucca (Ferdon 1946:8-9). Level 2, as Ferdon calls it, witnessed a continuation of the square-toed sandals plus the introduction of the round-toed or "fish-tail" variety which are known from Burnet Cave. With these exceptions, levels 1 and 2 are similar in content and collectively constitute the so-called Basket Maker period. Level 3, the uppermost of the cave's deposits, contained ceramics and little else (Ferdon 1946:23). Lithic remains are sparse throughout all levels, being limited to 9 projectile points, 1 drill, 12 knives, 7 scrapers, 2 choppers, 1 complete metate, metate fragments, 7 manos, 1 hammerstone, 2 smoothing stones, and assorted debitage (Ferdon 1946:20-21).

Unquestionably, the most definitive work relating to the Jornada Branch of the Mogollon is Lehmer's (1948)

publication. In his report, Lehmer (1948:9) considers the Jornada Mogollon to embrace an area extending from south-central New Mexico on the north to adjoining parts of Texas and Chihuahua on the south. As delineated, the lands east of the Pecos were not included in his description. It should be pointed out that Lehmer's field work was largely limited to the Rio Grande Valley area in the vicinity of Las Cruses and the lower Tularosa Basin. As defined in his study, the Jornada Mogollon was felt to consist of a pre-ceramic phase and a number of ceramic phases which he identified on the basis of differences in pottery types. [The pre-ceramic phase, or the Hueco Phase as it is called by Lehman, equates with Howard's Basket Maker-like remains from Burnet Cave.] In addition, Lehmer recognized northern and southern variants which were distinguished by the presence of intrusive elements emanating from the Cedarvale and Mimbres areas respectively (Lehmer 1948:71). Lehmer remarks that

> . . . we recognized colonies of two contemporary foreign phases, Mimbres and Cedarvale. Mimbres villages occasionally occur in and to the east of the Rio Grande Valley between Hatch and Caballo. In these, Mimbres black-on-whites are the dominant decorated wares, and there are house mounds, typical ruins of Mimbres Phase pueblos.

Continuing, Lehmer remarks

> The other foreign occupation, a southern colonization of Mera's Cedarvale Phase, was represented by strong, localized concentrations of Chupadero Black-on-white within El Paso Phase [the most recent phase of Lehmer's southern variant] villages in the lower Tularosa Basin. Apparently,

> Cedarvale people made up colonies within the El Paso villages and continued to produce their traditional pottery in the alien setting (Lehmer 1948:71).

Southeastern New Mexico seems to have been most influenced by the Cedarvale and to a lesser extent by the Mimbres; nevertheless, Mimbres wares do occur in the duned region east of the Pecos. By 1950, the basic regional chronology had been established and trait lists had been set up for the northern and southern variants of Jornada Mogollon culture. With the exception of Jelinek's work (1967) and relatively recent contract archaeology, areal archaeology has been left to local archaeological organizations in Hobbs and Carlsbad.

Southeastern New Mexico Archaeology, 1950-1976

With the passage of the 1940's, the momentum of archaeological research tapered off until Jelinek launched his intensive survey and later excavations of the northern Middle Pecos beginning in 1956. Jelinek's study was concentrated well north of the present investigation and dealt primarily with cultural resources between Alamogordo Reservoir on the north and the Bitter Lakes Wildlife Refuge on the south. His report, however, is of great importance, as it was the first to examine on a systematic basis the exact nature of local ceramic types. As viewed by Jelinek, Jornada Brown, as described by Mera (1943), was judged to be too broad and Lehmer's (1943) description of an El Paso Brown failed to distinguish it sufficiently from Jornada.

Although his description of Jornada Brown differs only slightly from Mera's, Jelinek does recognize a number of new types, viz., Roswell Brown, Middle Pecos Micaceous Brown, McKenzie Brown, and Smith Pecos Brown (Jelinek 1967:49-54). In addition to Chupadero Black-on-white ware, Jelinek (1967: 54-58) has established 2 additional black-on-white types, viz., Crosby Black-on-gray and Middle Pecos Black-on-white. The importance of Jelinek's work rests on the fact that for the first time a systematic reconnaissance of a hitherto poorly known area was followed by the excavation of a series of open sites. On the basis of his findings, it seems plausible to speculate that the earliest sedentary communities exhibit an assemblage generally similar to that of the latest Archaic. These early village sites, however, are accompanied by ceramics and appear to be closely related to the Capitan Phase of the northern variant of the Jornada Mogollon (Jelinek 1967:160). Jelinek terms this phase "Early 18 Mile" and tentatively dates it at A.D. 800-900. By Late 18 Mile, A.D. 900 to 1000, small pueblo-like sites occur throughout the area (Jelinek 1967:144-48). The following Mesita Negra Phase, A.D.1000 to 1250, witnesses the demise of pottery late in the period and a resurgence of lithic technology. By the end of this phase, there is a major shift in the economy away from the mixed horticultural-hunting basis of earlier times to a marked orientation toward the exploitation of bison (Jelinek 1967:148-51). By mid-McKenzie

times, A.D. 1250-1350, the sedentary pattern had been totally abandoned in favor of the new emphasis on hunting pursuits (Jelinek 1967:152-59). After A.D. 1350, the upper Middle Pecos was largely abandoned by its former occupants as witnessed by a virtual absence of cultural remains attributable to this period.

West of the Pecos throughout this period, the Carlsbad Museum Association was actively engaged in the excavation of a number of cave sites in the Guadalupes. Even though this work is outside the scope of this report, it is worthy of notice as it has added vital knowledge pertaining to the Archaic in the Guadalupes.

Beginning in the summer of 1957, the recently organized Lea County Archaeological Society inaugurated an era of intensive reconnaissance and excavation in Lea and Eddy Counties. Their Boot Hill Project (Corley and Leslie 1960) signaled the start of this work. Boot Hill yielded 4 burials, quantities of ceramics, ground stone, points, drills, and artifacts of shell and bone. In addition, Leslie and Corley (1960) felt that it may have contained pit houses; however, a considerable amount of evidence was lost during the excavation of this site owing to the illicit activities of pot hunters during a brief lull in the project. The site apparently served as a seasonal camp over a period of years as evidenced by a relatively thick midden deposit which ranged up to 4 ft in thickness.

In 1965, Leslie published his findings on the important Merchant Site located in Lea County about 6 miles north-northwest of the San Simon Swale. Until its discovery, the presence of dwellings east of the Pecos was a matter of conjecture. The Merchant Site yielded 2 pit rooms which had been pecked out of the caliche surface to a depth of 6 ft. These features, one of which was circular and the other rectangular, averaged about 20.6 ft and 10.6 ft respectively in diameter (Leslie 1965:26). Each feature exhibited signs of abandonment after its initial occupancy followed by re-utilization at a later time. Associated artifacts on both floors included Glaze I Red and Ramos Polychrome. In addition to these features, Leslie found evidence for at least 13 surface rooms. By way of comparison, surface rooms are smaller in size and average 7 to 9 ft in length. In general, a caliche and clay mortar foundation outlined these structures with the exception of the entry (Leslie 1965:27). Construction was undoubtedly of a wattle-and-daub nature owing to an accumulation of clay found on their floors. Entryways were not oriented in any particular direction. In addition to rooms, the Merchant Site produced approximately 7000 potsherds of which 98% were brown wares (Leslie 1965:28). Ochoa Indented accounts for 96% of these types and is considered to be of local origin. Of the total ceramic collection, intrusive types make only 2%. These include Chupadero

Black-on-white, Pecos Glaze I Red, Pecos Glaze I Yellow, Three Rivers Red-on-terracotta (Fine Line), Lincoln Black-on-red, El Paso Polychrome, Playas Red, Playas Incised, Ramos Polychrome, Gila Polychrome, and an unidentified black incise ware (Leslie 1965:28-29). Other cultural resources include 75 bedrock mortars as well as shaft polishers, scrapers, large numbers of projectile points, mussel shell beads and pendants, and several knives and drills. Manos are scarce as are pestles. Metates are either oval or circular in shape. No slab types were noted during the excavation. Owing to its nature, the Merchant Site ranks among one of the most significant archaeological sites in southeastern New Mexico.

In addition to their project at the Merchant Site, the Lea County Archaeological Society in 1965 embarked on an additional excavation at Rattlesnake Draw in the Buckeye area below the Caprock. This site, a non-ceramic manifestation, is situated on a deteriorated caliche surface which contained everything from the basal portion of a Clovis point to Archaic artifacts (Smith, Smith and Runyan 1966:4). Owing to the mixed nature of the lithic assemblage, as well as the local geology, it was determined that all cultural resources had been redeposited at this location. The Rattlesnake Draw project was followed by another investigation at Monument Spring southwest of Hobbs (Leslie 1968). This particular site is notable for its large number of bedrock mortars.

Leslie (1968:80) reports that 60 bedrock mortars occurred at their Feature 1 in an area measuring 15 by 30 ft. Associated artifacts included some faunal remains, mussel shell, projectile points, scrapers, debitage, and a number of potsherds. Feature 3 at the Monument Spring Site is interesting owing to the fact that it exhibited a possible unfinished pit house (Leslie 1968). Apparently, the caliche surface was broken by using large caliche boulders. One such stone, undoubtedly used for this purpose, was found nearby.

As a result of the Lea County Archaeological Society's extensive surveys of southeastern New Mexico, as well as their investigations at the Merchant Site and elsewhere, Corley (1965:31) called for the eastward extension of the Jornada Branch of the Mogollon in order to accomodate their new evidence. With the discovery of pit houses at the Merchant Site and their possible presence at several other sites, as well as an array of cultural resources typically associated with the Jornada Mogollon west of the Pecos, Corley considered Lehmer's (1948) delineation of the Jornada Mogollon to be inadequate. In his paper, Corley states that

> El Paso Polychrome and Glaze I Red are the latest pottery in the survey area and both of these wares are weak on Ochoa sites and on some Ochoa sites are not present at all, leads us to believe that these people were no longer in contact with the north and west, we suggest the possibility that the people of the northern and southern variant of the Jornada Branch had begun to abandon their area and left the Ochoa Phase isolated in this area for a few more years (Corley 1965:31).

equivalent of large burned rock absent sites and thus are merely smaller in size. In contrast to earlier projects in the area, this is one of the first problem-oriented studies to be conducted in southeastern New Mexico and should yield important data on methodology and site morphology.

THE MAROON CLIFFS ENVIRONMENT

Geology*

The Maroon Cliffs form the northern escarpment of Nash Draw, a relatively large depression formed by recent surface subsidence. The draw is a 4 to 6 mile wide, 18 mile long irregular depression resulting from the hydration and solution of evaporite rocks in the subsurface formations and the collapse of the overlying formations. This surface subsidence has resulted in tilting, warping and local distortion of the normally flat-lying strata. The floor of Nash Draw is an irregular landscape of arroyos, floodplains, dunal ridges, caliche knolls, playas and salt lakes, sunk to a depth of 100 to 150 ft below the surrounding plains. Distinct escarpments bound the draw on all sides except on the southwest. The escarpment at the north edge is called Maroon Cliffs; the one on the west is called Quahada Ridge, and the one on the east is called Livingston Ridge. The escarpment on the south side is not named. Several undrained salt lakes occupy the lowest parts of the draw, forming a complex drainage system which drains a relatively large area between the Llano Estacado and the Pecos River. Briny seeps occur occasionally in the bottom of the draw, but potable water is

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*This summary is based entirely on Vine, 1962.

presently available only from a few artificial wells. It is not known whether the drilling of numerous wells in the vicinity outside the draw has resulted in the demise of any natural freshwater sources. That there may have once been freshwater sources in the area is indicated by the present evidence of seepage in the southwest corner of Section 5 in the vicinity of sites ENM 10273 and 10316. The presence of large colonies of moss on the walls of the arroyo to the north and west of the site, and even on the northern slope of the hill upon which the site is located, suggests that useful seeps or springs may once have been present.

The most recent geological deposit in the survey area is the Mescalero Sands, a Quaternary aeolean deposit of dune-forming, pure, fine-grained sands. The Mescalero Sands constitute the most common surficial deposit in the area.

In drainage bottoms the sands overlie or are displaced by extensive alluvial floodplains. These floodplains are a compact, red loam consisting of reworked materials from the siltstone and sandstone formations in the cliffs, as well as sand from the Mescalero Sands and inclusions of fragmented caliche.

Underlying the surficial deposits throughout most of the area, and outcropping occasionally in ledges and rocky hilltops, is a discontinuous indurated caliche layer of Pleistocene or Recent age. The caliche layer varies from

zero to 10 ft in thickness and is believed to have formed prior to the subsidence of Nash Draw. Where the caliche has been exposed to the weather, it has formed ledges of dense limestone which are thick and compact enough that the Indians are known to have created bedrock mortars in it. The caliche overlies the late Pliocene or Pleistocene age Gatuna Formation in much of the area.

The Gatuna Formation is a 3 to 100 ft thick stratum of red-orange, friable sandstone, siltstone and conglomerate with local deposits of gypsum, gray shale and claystone. It is not present within the survey, but occurs occasionally beneath the caliche cap elsewhere in Nash Draw. The Gatuna Formation unconformably overlies Permian and Triassic rocks in the Nash Draw area, except where erosion has removed it.

The youngest Triassic rock in the vicinity is the Santa Rosa Sandstone, a crossbedded pale-red sandstone with conglomerate lenses and thin partings of siltstone and claystone. It does not occur within the survey but caps the Maroon Cliffs at their extreme northwestern end. It forms a low escarpment 1 to 2 miles north of the survey, between the Maroon Cliffs and U.S. Highway 62-180. The Santa Rosa Sandstone disconformably overlies the Dewey Lake Redbeds.

The late Permian or Triassic age Dewey Lake Redbeds are composed of a complex series of thinly laminated moderate reddish-orange to moderate reddish-brown siltstone and sandstone. They are frequently dotted with green reduction

spots and veined with thin selenite fillings. Within the survey, they comprise the entire exposure of the Maroon Cliffs except for a thin cap of caliche. This formation constitutes bedrock throughout the survey area.

The Dewey Lake Redbeds conformably overly the Rustler Formation, a late Permian age formation which in turn overlies the Permian Salado Formation. Neither of these last formations is visible in the survey area. They are significant, however, because it was solution of salt deposits in these formations that resulted in the subsidence of Nash Draw and the formation of the varied local topography.

In general, the local topography is assumed to have remained unchanged throughout much of the time that man is known to have inhabited the area. It is possible, however, that much of the surface subsidence that formed Nash Draw occurred during or after the earliest human occupations.

Climate*

The climate of the Maroon Cliffs area is classified as "semiarid continental." Summers are warm and winters are mildly cool. Sunshine is abundant year-round, and humidity is low. The average annual rainfall is 12 to 15 inches, with wide fluctuations from year to year. Moisture is predominantly of Gulf of Mexico origin, with approximately 80 percent

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*Data derived from interpolation of climatic records for Hobbs and Carlsbad as presented in Von Eschen 1961, Tuan 1973, and U.S. Department of Commerce misc.

falling in the form of rain during the period May through October. A small percentage of annual precipitation is in the form of snow. Summer temperatures exceed 90 degrees F. on most days and often exceed 100 degrees. Rapid cooling occurs in the evening, however, usually resulting in a nighttime low of 60 to 70 degrees. Winters are mild and sunny, with temperatures rarely dropping below zero. Daily temperatures frequently fall below freezing during January, but rarely fail to climb above freezing during the daytime. The average growing season is approximately 7 months long. Wind velocity is extremely variable, with a yearly average of approximately 12 miles per hour. The average wind velocity is greatest during March, when it occasionally gusts to over 25 miles per hour, and least during September or October. The variation in topography and rapid rise in elevation in the vicinity of the Maroon Cliffs undoubtedly results in local micro-climatic variations, but these have not been measured.

Terrain

The Maroon Cliffs area is probably the most topographically diverse and scenic area in southeastern New Mexico east of the Pecos River. Within the 6½square mile area covered by the present survey, there are rocky hilltops, undulating stabilized and active dune areas, small drainage basins, steep escarpments, broad floodplains and deep arroyos. The elevation within the area surveyed varies from 3170 ft in

the arroyo in the SW¼ of Section 17, to 4471 ft on the hilltop near the center of Section 9, just over 1½ miles away. Most of the elevation change occurs at the main escarpment of the Maroon Cliffs, which climb more-or-less abruptly for over 100 ft. The escarpment rim offers a panoramic view of Nash Draw as far south as the salt lake, and surrounding areas from Hat Mesa and Livingston Ridge on the east to Quahada Ridge on the west are visible from there. On days when the dust emissions from local potash refineries are dispersed enough to permit it, the Guadelupe mountains are visible far to the west.

Five distinct types of terrain can be identified within the survey area, each with its characteristic plant cover. These will be referred to as Types I through V throughout the remainder of this report.

Type I: undulating hummock and dune landscapes (Figures 2, 3).

Type I is characterized by gently sloping or rolling landscapes of undulating hummocks and/or dunes. Two subtypes, Ia and Ib, may be recognized within terrain Type I. Ia is characterized by low hummocks, stabilized dunes, and small, open, inter-dunal blowout or washout areas, with hummocks and dunes supporting dense coppices of Prosopis juliflora. It is the dominant terrain type above the Maroon Cliffs escarpment. Ib is characterized by more active dunal areas with dunes of loose sand and active or semi-active blowouts. The dunes are often high, and the blowouts relatively large. The dunes frequently support coppices of

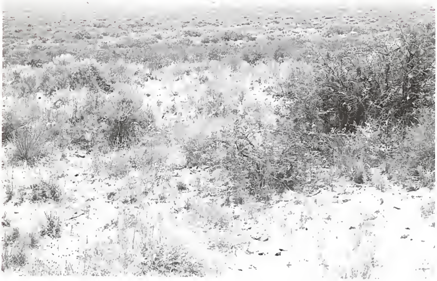

Fig. 2: Type Ia terrain, S½ Section 14.

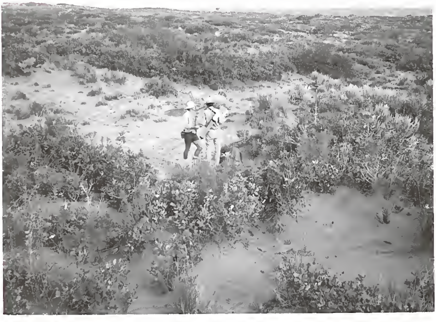

Fig. 3: Type Ib terrain, SW¼ Section 17.

Quercus havardii, Artemisia filifolia and sometimes Prosopis. Type Ib frequently occurs as hills or ridges within Type Ia terrain, and in belts paralleling escarpments and floodplains. It occurs frequently above the Maroon Cliffs escarpment, and is dominant south and west of the main arroyo in Section 17.

This terrain, especially in the Ib-type areas, has attracted off-road motorcyclists and dune buggyists. Their tracks are visible in many parts of the survey, particularly in the S½ of Section 17.

Type II: open, gently rolling or sloping savannah (Fig. 4)

Type II terrain consists of gently sloping or rolling landscapes with occasional Prosopis hummocks. Inter-hummock areas are open flats dominated by Artemisia filifolia, Gutierrezia sarothrae and assorted Graminaceae. This terrain is common only below the escarpment in Sections 14 and 15. Elsewhere it occurs rarely, in small pockets within terrain Type I.

Type III: rocky hilltops and hillslopes (Fig.'s 4, 5)

Type III is characterized by (1) rounded knolls capped with fragmented caliche and little topsoil, and (2) slopes with shallow topsoil and numerous caliche outcroppings. It generally supports stands of Acacia spp., Larrea tridentata and Condalia ericoides. It occurs frequently on the hilltops in the N½ of Section 8, and is present on isolated hilltops elsewhere (e.g. center Section 9, east-central Section 17) and on indistinct portions of the Maroon Cliffs escarpment (e.g. NE¼ Section 16, NE¼ Section 15).

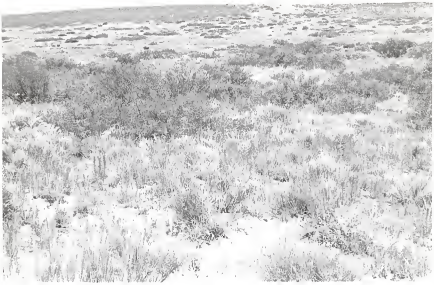

Fig. 4: Type II terrain, S½ Section 15. Three types of terrain are visible on the escarpment: Type III left of center, Type II right center, Type IV far right. ENM 10314 is on the horizon at center.

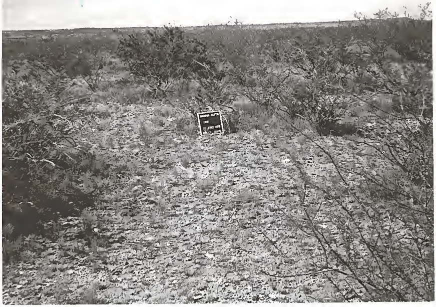

Fig. 5: Type III terrain, hilltop in NE¼ Section 8.

Type IV: steep escarpments and barren terraces (Figures 6 and 7).

Type IV is limited to well-defined portions of the Maroon Cliffs escarpment, consisting of steep exposures of the Dewey Lake Redbeds and Santa Rosa Sandstone. The escarpment rises abruptly from the gently sloping bottom of Nash Draw to the Maroon Cliffs rim, a climb of over 100 ft. Vegetation is sparse, limited to an occasional woody shrub or Gutierrezia. Type IV is present wherever the escarpment is distinct in all sections except 10 and 17.

Type V: floodplains and arroyos (Figure 8).

Type V is characterized by extensive erosional areas consisting of open, flood-scoured, gently sloping flats of dense red loam or shale cut by abrupt arroyos. The flora is dominated by open Larrea forest in the floodplains.

Evidence indicates that erosion in the Maroon Cliffs area, especially in the floodplains, has proceeded with frightening rapidity during the past half-century. Caliche-surfaced roads built in connection with potash exploration activities during the past forty years have in many places been cut by arroyos or destroyed by sheet-flooding. Deep arroyos now cut through roads where details of road construction indicate there were only shallow washes at the time of construction. The old Carlsbad-Hobbs highway, which forms a loop around the area of the present survey beginning and ending on Highway 62-180 and passing through the two forks of Nash Draw, is no longer navigable in a two-wheel vehicle.

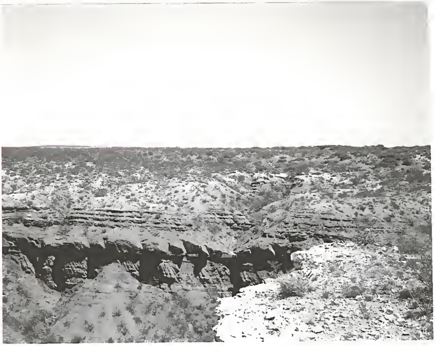

Fig. 6: Type IV terrain, SW¼ Section 9. ENM 10045 is on near horizon.

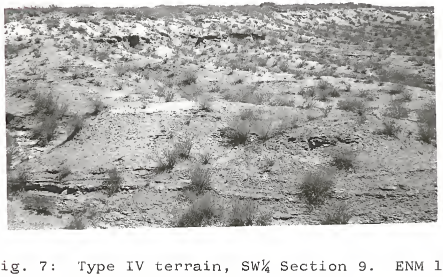

Fig. 7: Type IV terrain, SW¼ Section 9. ENM 10269 follows the rim along the horizon.

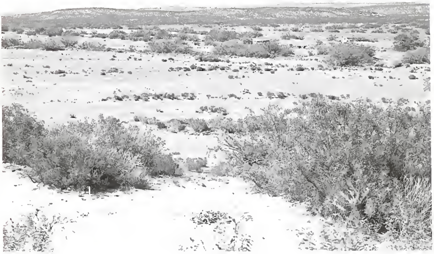

Fig. 8: Type V terrain, SW¼ Section 17.

Floodplain areas, scoured by intermittent sheet-flooding, have expanded at the expense of caliche roads and drill pads and are spreading into dunal areas.

Heavy use of the area by motorcyclists, especially in the dunal areas of Section 17 and along the escarpment and rim in Section 8, 9 and 16 has hastened erosion locally. Small arroyos are forming in motorcycle tracks in interdunal areas above the escarpment, and the loosening effect of bikes on sand dunes is intensifying colluvial sand movement in dunal areas.

Flora

The vegetative cover in the Maroon Cliffs area is even more rich and varied than the topography. A remarkable array of plants occurs, reflecting the variety of local soils and topography as well as the area's transitional location between the High Plains, the Chihuahuan Desert and the Pecos Valley.

Since vegetational associations tend to vary according to the terrain, the flora will be discussed in terms of the five types of terrain defined above.

The vegetation cover throughout Type I terrain is dominated by woody shrubs which occupy hummocks or coppiced dunes. Specific dominance varies according to terrain, with Type Ia dominated by *Prosopis juliflora* and Type Ib dominated by *Quercus havardii* and *Artemisia filifolia*. *Atriplex canescens* occurs occasionally in Type Ib above the escarpment,

and becomes quite common in that terrain below the escarpment. *Yucca campestris* and *Eriogonum annum* are present everywhere in Type I, and *Chrysothamnus pulchellus* is present occasionally. The shrubs characteristic of terrain Type II (*Acacia*, *Larrea*, *Rhus*, *Condalia*, etc.) occur sporadically in areas of shallow soil within Type I, becoming common in areas transitional to Type II. *Rhus microphylla* and *Acacia greggii* occur occasionally in dense thickets at the edges of Type Ia terrain.

A variety of grasses and forbs is also present throughout Type I. *Muhlenbergia spp*. and *Setaria macrostachya* grow as an understory on coppiced dunes and occur sporadically in interdunal localities as well. *Aristida spp*. and *Cenchrus incertus* are ubiquitous and *Tridens pulchellus*, *Andropogon spp*., *Paspalum distichum* and *Stipa neomexicana* are present in varying degrees of abundance. *Bouteloua spp*. are rare in the intensive sections, but quite common both above and below the escarpment in the extensive area. *Schranchia occidentalis*, *Croton pottsii*, *Euphorbia spp*., *Dalea argyraea*, *Mentzelia strictissima*, *Heliotropum convulvulvaceum*, *Solanum elaeagnifolium*, *Lepidium sp*., *Cyperus onerosus*, *Tradescantia sp*., *Chrysothamnus pulchellus*, and *Pectis papposa* are present sporadically throughout. *Ibervillea tenuisecta* and *Maurandya wislizenii* occasionally occur twined through and around the shrubs in dune coppices. Also noted occasionally in terrain Type I are *Verbesina encelioides* (tentative id.), *Ipomopsis*

lingiflora, *Zinnia spp.*, *Helianthus sp.*, *Dalea wrightii*, *Lyceum sp.* (tentative id.), *Asclepius sp.*, *Argemone platycerus*, *Bahia absinthifolia* (tentative id.), *Eriogonom inflatum*, *Gaillardia multiceps*, *Abronia sp.*, *Caesalpinia jamesii*, *Solanum rostratum*, and *Senecio sp*. *Phyllanthus abnormis*, *Datura wrightii* and *Proboscidea sabulosa* are frequently present in active blowouts. In a follow-up visit to the Maroon Cliffs in mid-September, *Rumex hymenosephalus* was noted springing up in abundance in Type I terrain.

The open savannah of Type II terrain is dominated by *Artemisia filifolia*, *Gutierrezia sarothrae* and assorted Graminaceae. *Prosopis juliflora* occupies scattered hummocks, and other woody shrubs such as *Rhus microphylla*, *Acacia spp.*, *Dalea formosa*, *Condalia ericoides*, *Yucca campestris* and *Atriplex canescens* occur occasionally. Graminaceae noted include *Bouteloua hirsuta*, *Bouteloua spp.*, *Aristida spp.*, *Cenchrus incertus*, *Tridens pulchellus*, *Andropogon spp.*, *Sporobolus spp.*, *Paspalum distichum* and other unidentified species. Mostly, the forbs listed as occurring in Type I terrain occur in Type II as well. A locally isolated colony of *Sapindus saponaria* was noted in this terrain in the S½ of Section 15.

The vegetation cover on the rocky hills and slopes of Type III terrain is relatively sparse, dominated by mixed *Larrea tridentata* and *Acacia constricta*. *Acacia gregii*, *Dalea formosa*, *Condalia ericoides*, *Koeberlinia*

spinosa, Lyceum sp., and Rhus microphylla are also frequently present, especially on slopes and in areas transitional to Type I terrain. Yucca campestris and Gutierrezia sarothrae are commonly present. A single specimen of Dasilyrion wheelerii was noted in this terrain type at the south end of Section 9. Ephedra sp. and Atriplex canescens occur sporadically on the rim of the escarpment.

The floral cover on the steep escarpments and terraces of Type IV terrain is sparse. Gutierrezia sarothrae, Atriplex canescens, Ephedra sp., and an occasional shrub of the types common in terrain Type II are scattered sparsely across the escarpment, and occasional unidentified grasses and forbs also occur. Two isolated specimens of Juniperus monosperma were noted in this terrain, one in Section 16, the other in Section 8.

The sheet-wash scoured floodplains of terrain Type V are dominated by sparse forests of Larrea tridentata with Atriplex canescens, Prosopis juliflora, Yucca campestris and occasional shrubs typical of terrain Type II occurring less frequently. Where enough topsoil remains or has accumulated to permit the formation of hummocks, Prosopis may become dominant. Gutierrezia sarothrae is relatively abundant. Salsola kali and a variety of grasses including Aristida spp. and Setaria macrostachya are distributed sparsly in these areas.

The arroyos contain a wide variety of species, many of which are unusual elsewhere in the area and were not

identified. In addition to most species listed previously, *Rhamnus betulaefolia* (single specimen lower Section 17--tentative id.), *Snaeda suffrutenscans* and *Polanisia uniglandulosa* are present.

It should be noted that the above identifications were not made by trained botonists and therefore should not be considered completely authoritative.

Fauna

Although no systematic faunal study was attempted, the following species were casually observed by the archaeologists during the course of the survey:

Birds	Where Sighted
Cathartes aura	General.
Parabuteo unicinctus	Adults in flight Sections 8, 9, 17. Two fledgelings in nest, Section 1.
Falco sparverius	Sections 8, 9.
Callipepla squamata	General outside floodplains. Numerous sightings.
Zenadura macroura	General. Numerous sightings.
Geococcyx californianus	Section 4. Several sightings.
Bubo virginianus	Section 14 near escarpment. Tentative id.
Tyto alba	Arroyo, south end of Section 17.
Chordeiles minor	General. Numerous sightings. Apparent nesting area in floodplain, Sections 8, 17.
Myiarchus cinerascens	Occasional throughout survey, esp. in *Rhus* thickets in Sections 14, 15 below escarpment.

Hirundo rustica	General.
Corvus sp.	General.
Mimus polyglottos	General.
Pyrrhuloxia sinuata	General. Numerous sightings.

Mammals	Where Sighted
Canis latrans	E½ Section 9. Also heard from Sections 4, 5, 8.
Felis concolor	NW¼ Section 15 (tentative id.).
Lynx rufus	Tracks Section 9 near escarpment. Section 17.
Citellus sp.	General in terrain of Types I and II.
Dipodomys spp.	General in terrain of Types I and II.
Lepus californicus	General. Abundant.
Sylvilagus floridanus	General. Less abundant than *Lepus*.
Odocoileus hemionus	Several sightings in Sections 10, 11. Tracks occasionally in all sections above escarpment.
Odocoileus virginianus	Section 4. Single sighting.

Reptiles	Where Sighted
Terrapene ornata	General in terrain of Types I and II.
Holbrookia texana	SW¼ Section 17. Single sighting in high dunes.
Grotaphytus wislizenii	SW¼ Section 17, high dunes.
Uta stansburiana	SW¼ Section 17, high dunes.
Phrynosoma spp.	General.
Crotalus atrox	East side of high hill in center of Section 9.
Crotalus viridis	Section 8 below escarpment on rocky hillside.

The above lists contain only species which the archaeologists could identify. A number of other bird and reptile species were sighted but not identified.

THE SURVEY

Area Surveyed

The area surveyed is at the head of Nash Draw in Township 21 South, Range 30 East, N.M.P.M., Eddy County, New Mexico (Figures 1, 9). The survey involved approximately 6½ sections, 3 of which were intensively surveyed and 3½ of which were extensively sampled, as follows:

Intensive survey: Sections 9 and 17 in their entireties, and all of Section 8 except the NW¼ of the NW¼.

Extensive survey: Sections 10, 11 and 15 in their entireties, and in Section 14: NE¼ of the NE¼, W½ of the NE¼, NW¼ and N½ of the SW¼. The extensive sections were sampled using four 200 ft wide transects across each section, resulting in a 15 percent sample. In order to facilitate logistics, transects were placed adjacent to each north-south section and ¼ section line. As a result, all transects were oriented north-south, and in several places transects were contiguous.

Survey Technique

The intensive sections were surveyed in parallel, adjacent, compass-guided transects 75 to 300 ft in width. Each transect was subdivided into parallel, adjacent corridors, each of which was surveyed intensively by one of the surveyors

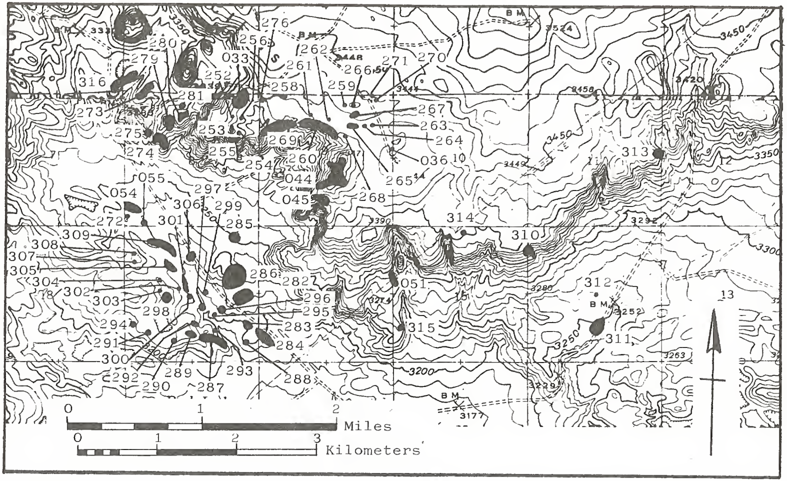

Fig. 9: Map showing site locations (adapted from U.S.G.S. Nash Draw and Clayton Basin Quadrangles, 15 minute series).

as the team moved abreast through the length of the transect. This permitted an optimal amount of visual inspection. To ensure that all ground was covered, each transect was controlled by a team member on one flank who maintained his line using a Brunton pocket transit mounted on a monopod. When local features made it possible, the sections were divided into discrete geographic areas bounded by clear features such as roads, fencelines, escarpments, arroyos, etc., and these areas were surveyed as individual units using compass-controlled transects as described above. This resulted in maximum familiarity with the local topography and facilitated the accurate recognition of site locations on the topographic map and aerial photograph.

The survey technique utilized in the extensive sections was similar to that used in the intensive area, with crew members walking adjacent corridors within a 200 ft transect. For accuracy, a monopod mounted pocket transit was used by the man on the flank in order to ensure the trueness of the transect.

When a site was discovered, it was recorded on an ACA site form, a sketch map was made, black-and-white photographs were taken and the site location was marked on both a U.S.G.S. 15 minute topographic map and an aerial photograph. In most cases, artifacts were examined at the site and left _in situ_. Collections were limited to: (1) artifacts such as projectile points, scrapers, ground stone, etc.

which were considered likely to disappear into private collections if left *in situ*; and (2) pottery sherds of types not familiar to the field workers, which were collected for identification in the laboratory.

Description of Findings

Summary. Throughout the survey, a distinction was made between 3 basic types of archaeological manifestations: the "site," the "isolated manifestation," and the "general scatter zone."

A "site" is any concentration of cultural material containing clear evidence of other than *en passant* human occupation. Sites are generally larger than 16 square meters and contain at least 1 localized concentration with an artifact density higher than 1 artifact per square meter. Cultural material in a site includes more than one kind of artifact not including burned stone. Manifestations separated by a hiatus of 20 m or more between concentrations were assigned separate site numbers, while those within 20 m of one another were subsumed within a single site.

An "isolated manifestation" is any artifact or insignificant concentration of cultural material separated by more than 20 m from any other manifestation. Isolated manifestations are generally smaller than 16 square meters, and never contain more than 2 kinds of artifacts. An isolated manifestation can usually be attributed to an *en passant* occupation.

A "general scatter zone" is a large, nebulous area of widely scattered cultural material. It may or may not contain local concentrations designated as sites. It amounts to an area containing numerous artifacts which are too concentrated to be termed "isolated" yet too dispersed to constitute a single site. The artifact density away from defined concentrations is generally less than 1 artifact per 16 square meters. General scatter zones most often consist of secondary artifact scatter in areas of high site density (e.g. N½ of Section 9).

An attempt was made to identify the occupying cultures and approximate dates of occupation for each site, based on the following criteria:

Paleo-Indian (ca. 12,000 B.C. to 6,000 B.C.): presence of specific diagnostic point types, e.g. Clovis, Folsom, Plainview, etc.

Archaic (ca. 6,000 B.C. to A.D. 900): presence of "dart points," i.e. notched or stemmed points, often percussion flaked, smaller than Paleo-Indian points but larger and thicker than most arrow points. Specific archaic point types are not well defined for this area, but points which compare in general size and shape with point types of known Archaic age elsewhere are considered to be of similar age here.

Jornada Mogollon (ca. A.D. 900 to 1450): presence of pottery. Ground stone, while apparently diagnostic of

post-Paleo-Indian cultures in general, has not been studied sufficiently in this area to permit the recognition of diagnostic types which would provide a basis upon which one post-Paleo-Indian culture could be distinguished from another.

Early historic Indian (Lipan Apache, Mescalero Apache, and Comanche. Ca. A.D. 1575 to 1875): difficult to recognize unless tepee rings, metal arrow points and/or European trade goods are present. Although the Mescalero Apache are known to have produced crude, gray to brown pottery in small amounts, no Apache pottery has been identified in this area.

Historic Spanish or Anglo (A.D. 1582 to present): presence of metal and/or glass artifacts, especially those usually associated with farming, ranching or mineral exploration.

Using these criteria, no Paleo-Indian or early historic Indian occupations were recognized. Of the 67 sites recorded in the survey, 1 contains only evidence of an Archaic occupation; 32 bear signs of Mogollon occupation only; and 4 yield evidences of both Archaic and Mogollon occupation. One site is a 20th century Anglo camp site, and two others contain Anglo in addition to prehistoric components. Twenty-nine prehistoric sites produced no diagnostic artifacts and therefore could be assigned neither age nor cultural affiliation. It is probable that most, if not all, of the large prehistoric sites contain more than a single component, and that the sites of unknown affiliation date to either Archaic

or Mogollon times. It is also likely that both Paleo-Indian and early historic Indian components are present but invisible within the area surveyed. The presence of Paleo-Indian material is evidenced by a Lea County Archaeological Society report that a "classic Plainview" point was found just outside the survey in the drainage north of ENM 10279 (Leslie, personal communication).

Identification of cultural affiliation proved to be a problem for several reasons. First, all prehistoric sites recorded are similar except for diagnostic artifacts. Sites with both Archaic and Mogollon affiliations and perhaps Apache as well, commonly contain quantities of burned stone and non-diagnostic artifacts such as flakes, nondescript scrapers, ground stone, etc. Second, for each prehistoric culture known to have occupied southeastern New Mexico, there is at this time only one known diagnostic trait or artifact which reliably distinguishes that culture from any other. Therefore, only those manifestations which produce a diagnostic artifact for each component can be correctly dated and assigned cultural affiliation(s). Third, those diagnostic traits or artifacts are not usually abundant at any site and can therefore be easily removed by erosion or relic collection or buried by colluvial sand movement. Fourth, many of the sites in the survey area have been intensively picked over by relic collectors. Since the most diagnostic artifacts are inevitably the most attractive, many sites have been stripped

of material which would have permitted recognition of occupying cultures. Sixth, some diagnostic artifacts are less common and/or more appealing to collectors than others. These are likely to disappear, leaving the less attractive and more common artifacts behind to bias the interpretations of the archaeologist. For example, projectile points are generally less common and definitely more highly prized by collectors than the plain, unattractive, brown pottery sherds. As a result, Paleo-Indian and Archaic components, which can only be recognized on the basis of presence of diagnostic projectile points, will be made increasingly less visible than the pottery-containing Mogollon components. The point to be made here is that tabulations of number of sites, site locational tendencies, etc., for each major occupation cannot be made with assurance on the basis of our survey data. Such tabulations are therefore presented only for the survey as a whole, without breakdown into Archaic, Mogollon, etc.

In terms of terrain type, the large majority of the sites are located in Type I terrain, with a marked preference for dunal ridgetops, hilltops, escarpment rims and proximity to arroyos. Several large sites are located on caliche hilltops in Type III terrain. No sites are located in Type IV terrain, although several are situated on rims, promontories or hilltops adjacent to Type IV escarpments. A few manifestations are present in the floodplains of Type V terrain, but there is reason to believe that they were originally located in areas of Type I or II terrain into which the flood-

plains have recently expanded. The heavier artifacts, liberated from their sand matrix, are now exposed on the deflated surface of the floodplain.

Sites recorded vary in size from 15 square meters to over 50,000 square meters. The larger sites are located on escarpment rims, on hilltops, or adjacent to major arroyos. Sites tend to thin out and become smaller in proportion to their distance from one of these features.

Artifacts. There is little consistent variation in the artifact inventories observed at the different sites. Where pottery is present it nearly always includes El Paso and/or Jornada Brown. Chupadero Black-on-white occasionally occurs alone or in association with the plain browns. Playas Gouged -incised, Lincoln Black-on-red and Three Rivers Red-on-terracotta occur sporadically and are always associated with Jornada and/or El Paso Brown. All of these types are representative of the Jornada Mogollon and date to within the period A.D. 900 to 1350.

Ground stone is represented at most sites by fragmentary metates and whole or fragmented manos. No whole metate was noted in the survey, with the exception of an isolated naturally flat slab which was apparently used as a temporary makeshift milling stone. The majority of the fragments appear to be pieces of well-shaped oval slabs with oval basins. Two fragments of an unusually small (20 to 30 cm long) metate were found at the isolated manifestation near the

caliche road in Section 9. It was an oval basin type with a ca. 25 cm long by 12 cm wide grinding depression worn into a 25 to 30 cm by 15 cm by 4 cm unshaped slab (Figure 10). Manos throughout the survey are one-hand, single or double-surfaced limestone or sandstone cobbles. Frequently the 2 grinding surfaces in two-sided manos converge to form a 20 to 30 degree wedge. Most of the manos have slightly convex grinding surfaces from use with basin metates, but some appear to have had flat surfaces. No metates were observed which could have produced these flat surfaces.

One artifact of red-buff sandstone was collected from ENM 10305 and is thought to have been a shaft smoother (Figure 11). It is a 12 by 8 by 6 cm cobble with 2 parallel grooves worn in 1 end. It was found in association with El Paso Brown pottery, ground stone, and lithic debitage.

Several unusual artifacts were noted in a small area along the escarpment rim in Sections 8 and 9. ENM 10253 and 10269 both produced large, thin slabs of flaked limestone, crescentic in shape and up to 21 cm in length. These appear to have been used for chopping purposes.

Chipped stone in the form of chert or quartzite debitage and/or finished tools is present at most sites, and hammerstones of chert or quartzite occur occasionally. Most finished tools have evidently been collected from the sites, but it is still possible to find an occasional scraper. Scrapers vary in size, morphology and material. Most often they are straight or convex side scrapers manufactured from

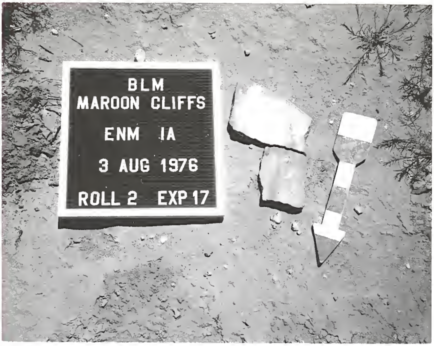

Fig. 10: Small metate, isolated manifestation in NW¼ Section 9.

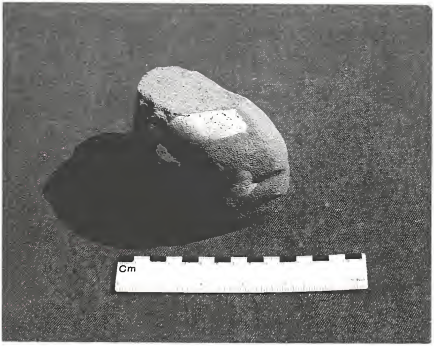

Fig. 11: Shaft smoother from ENM 10305.

a quartzite primary decortication flake. One specimen (Figure 12h) from ENM 10305 is a combination tool with a graver on 1 edge and scraping edges around the remainder of the flake.

Blades are rare but appear occasionally. One well-executed, carefully retouched example from ENM 10284 is illustrated in Figure 12a. This implement was apparently used as a knife.

Six projectile points were observed and collected during the present survey, and several others were observed by ACA surveyors who worked the area in 1975 (Figures 12 and 13). They are described individually in the appendix. All appear to be atlatl points and are tentatively attributed to an Archaic occupation.

A Note on Erosion. Erosion is taking a heavy toll on the cultural resources of the Maroon Cliffs area. Site ENM 10311 is being rapidly devoured by an immense arroyo, while the expansion of scoured floodplains into dunal areas has partially destroyed ENM 10054, 10283, 10284, 10309 and 10311. ENM 10268, 10281, 10282, 10285, 10286, 10299, 10306 and others are being destroyed by sheet erosion and/or the formation of small rills or arroyos. In addition, sites in dunal areas are subject to colluvial movement of the aeolian sand matrix.

Motorcycle activity has also resulted in damage to numerous sites, either directly by disturbing the soil or

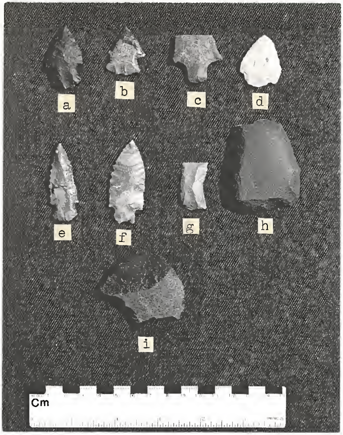

Fig. 12: Miscellaneous chipped stone artifacts.

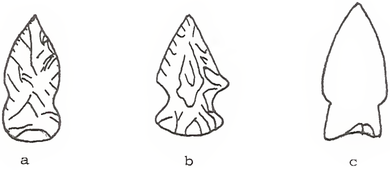

Fig. 13: Points reported from 1975 ACA survey. Actual size.

indirectly by encouraging erosion. Motorcycle trails are present in or adjacent to nearly every site on the rim and hilltops in Sections 8 and 9 and in many of the sites in the dunal area of Section 17. In many cases the trails pass directly through fire hearths and artifact concentrations. In one instance (ENM 10260), the base of a snapped Archaic point was found in the track of a motorcycle. The motorcycle track through ENM 10268 has begun to develop into a small arroyo, which is exposing a dense concentration of artifacts and culturally darkened soil. In dunal areas the motorcycles are disturbing cultural deposits and hastening colluvial movement by loosening the sand in dunes and blowouts.

Site Descriptions. Sixty-seven sites were recorded within the survey area. They are described in numerical order according to site number.

ENM 10033 (Fig. 14)

Location: NW¼ of the NE¼ of the NE¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596200, E603700

Type of site: special activity locus

Cultural affiliation: Archaic, Jornada Mogollon

10033 is a large scatter of burned stones and artifacts, covering an area 300 m by 75 m on the side of a prominent hill. The site is situated in an area of dunes and blowouts, with secondary scatter extending into surrounding areas of thin topsoil. Numerous hearth areas are

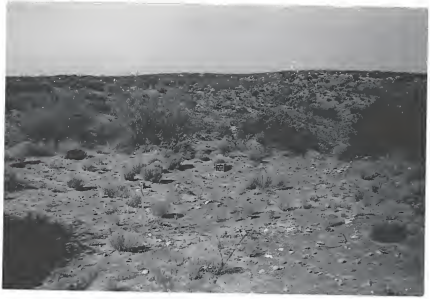

Fig. 14: ENM 10033. Overview looking southwest toward hilltop.

present, as evidenced by concentrations of burned stone and occasional ash stains in the soil, and large quantities of burned stone are scattered extensively throughout the site. Artifacts noted include small amounts of El Paso and Jornada Brown pottery, mano and metate fragments, waste flakes of chert and quartzite, and utilized flakes of chert.

This site was originally numbered and recorded in 1975 by the ACA in connection with the Mississippi Chemical Company Caprock Water System project. At that time various pottery types were observed throughout the site, whole manos and metates were present, and an Archaic dart point was noted. The near absence of pottery and the total absence of chipped stone tools and whole grinding implements noted in the present survey suggest the extent to which this site has been collected during the past year.

Historic artifacts including tin cans, 20th century ceramics, cable, glass bottles, etc. were found in concentrations and general scatter over much of the site. These are thought to represent the remains of an early 20th century potash camp and temporary visitations by hunters, ranchers, and relic collectors up to the present time.

ENM 10036 (Fig.'s 15, 16)

Location: SE¼ of the SE¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595650, E605600

Type of site: task locus

Cultural affiliation: Jornada Mogollon

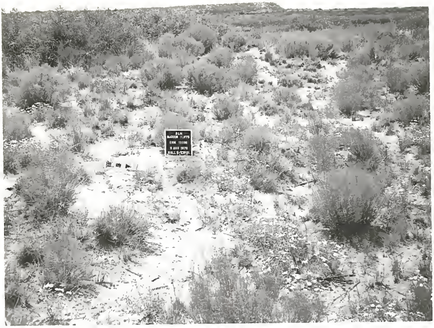

Fig. 15: ENM 10036. Overview looking southwest.

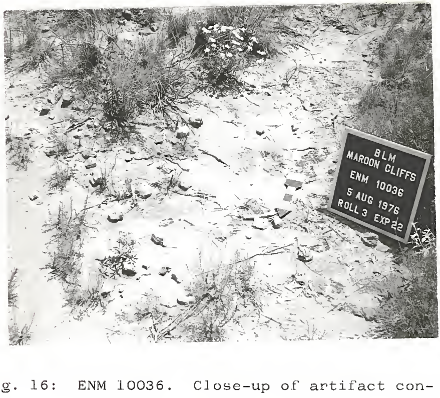

Fig. 16: ENM 10036. Close-up of artifact concentration.

10036 consists of 3 small concentrations of burned stone and a single mano, in 2 small, shallow blowouts on a northwestward sloping hillside. Thirty meters downhill to the west-northwest and 40 m downhill to the north are additional small concentrations of burned stone, with no artifacts.

This site was originally recorded in 1975 as part of the Mississippi Chemical Company Caprock Water System project. Records made at that time indicate that several sherds of Jornada Brown were noted on or near the site, and that the site includes 2 more burned stone concentrations uphill to the east, outside the present survey.

ENM 10044 (Fig. 17)

Location: NW¼ of the NW¼ of the SE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595400, E604900

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10044 is a large, nebulous area of scattered burned stone and artifacts, spread over a rocky hilltop, a duned ridge, a rim promontory, and surrounding slopes. The site is over 500 m long from north to south, and up to 200 m wide from east to west. Concentrations of burned stone and artifacts are visible in blowouts among the dunes and on the hillslopes, and a particularly heavy concentration with organically darkened soil is located on the rim promontory.

A thin scatter of waste flakes and lithic tools, and a single specimen of Three Rivers Red-on-terracotta pottery were noted on the rocky hilltop.

Artifacts noted on the site include Jornada Brown, El Paso Brown and Three Rivers Red-on-terracotta pottery; mano and metate fragments; a tip of a broken point; and a variety of waste flakes.

This site was first recorded in 1975 by the ACA as part of the Mississippi Chemical Company Caprock Water System project.

ENM 10045 (Fig. 18)

Location: SE¼ of the NE¼ of the SW¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595050, E604750

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10045 consists of several burned stone concentrations and an extensive scatter of burned stone and artifacts, scattered over an area 200 m by 50 m in dunes and blowouts and on rocky hillslopes near the rim of the Maroon Cliffs. Artifacts noted include El Paso Brown pottery, mano and metate fragments and a variety of chert and quartzite utilized and waste flakes.

This site was first recorded by the ACA in 1975 as part of the Mississippi Chemical Company Caprock Water System project.

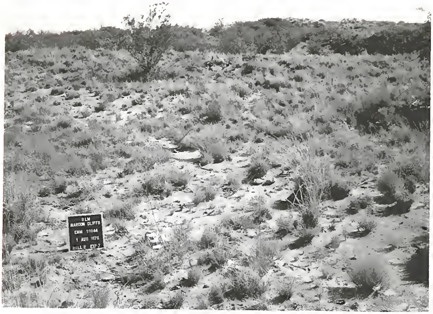

Fig. 17: ENM 10044. Overview of south end of site looking north toward dune ridge.

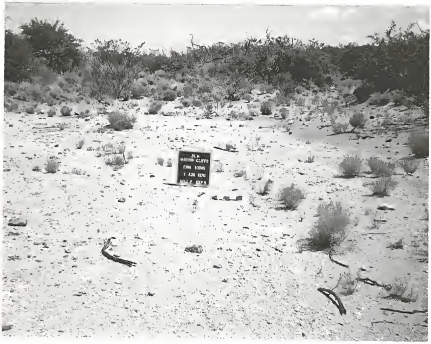

Fig. 18: ENM 10045. Overview of major blowout looking east.

ENM 10051 (Fig. 19)

Location: NW¼ of the SW¼ of the NW¼ of Section 15; NE¼
  of the SE¼ of the NE¼ of Section 16; T21S, R30E
  USGS 15 minute series, Nash Draw Quadrangle
  UTM Zone 13, N3593320, E60450

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10051 is a nebulous scatter of burned stones, darkened soil and artifacts covering an area of loose sand approximately 120 m by 50 m. Artifacts noted on the site include El Paso Brown, Jornada Brown and an unidentified black-on-white pottery; mano and metate fragments; utilized chert flakes and a variety of chert and quartzite waste flakes. A pipeline passes from NE to SW through the site, and pipeline construction has completely rearranged the site and scattered the artifacts.

This site was first recorded in 1975 by the ACA as part of the Mississippi Chemical Company Caprock Water System project.

ENM 10054 (Fig. 20)

Location: NW¼ of the SW¼ of the SW¼ of Section 8, T21S, R21E
  USGS 15 minute series, Nash Draw Quadrangle
  UTM Zone 13, N3594900, E602500

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10054 is a large (200 m by 50 m) scatter of burned stone and artifacts, situated in an area of high dunes and large blowouts adjacent to the erosional plain of an inter-

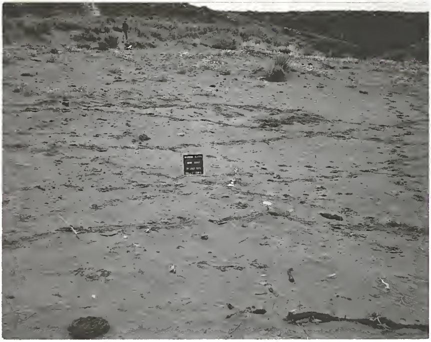

Fig. 19: ENM 10051. Overview looking north. Sand has been leveled by pipeline construction.

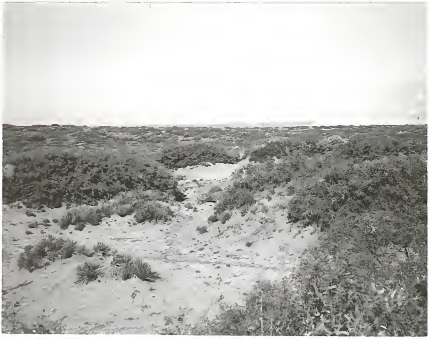

Fig. 20: ENM 10054. Overview looking west. Mississippi Chemical Corporation refinery in distance.

mittent drainage. A number of burned stone concentrations suggest the existence of multiple fire hearths. Artifacts noted on the site include El Paso Brown, Jornada Brown and Chupadero Black-on-white pottery; numerous metate and mano fragments; hammerstones; scrapers; and a wide variety of utilized and unutilized chert and quartzite flakes. Dune buggy tracks were noted passing through the site.

This site was first recorded in 1975 by the ACA as part of the Mississippi Chemical Company Caprock Water System project.

ENM 10055 (Fig. 21)

Location: SE¼ of the SW¼ of the SW¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594700, E602600

Type of site: special activity locus

Cultural Affiliation: Jornada Mogollon

10055 is a 200 m by 40 m light scatter of artifacts and burned stone concentrations in a series of blowouts among high dunes near the erosional plain of an intermittent drainage. Six concentrations of burned stones were noted. Artifacts noted on the site include El Paso Brown pottery, mano and metate fragments and utilized and waste flakes of chert and quartzite.

This site was first recorded in 1975 by the ACA as part of the Mississippi Chemical Company Caprock Water System project.

ENM 10252 (Fig. 22)

Location: SW¼ of the NE¼ of the NE¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595950, E603950

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10252 is a small site, consisting of 3 burned stone concentrations and an ash stain surrounded by a light scatter of artifacts. The site is about 25 m by 15 m and straddles a small erosional channel between coppice dunes on a gently eastward sloping hillside. Artifacts noted on the site include mano fragments and a variety of chert and quartzite waste flakes.

ENM 10253 (Fig. 23)

Location: NW¼ of the SE¼ of the NE¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595800, E603650

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10253 is a scatter of burned stones and artifacts with 4 major concentrations, covering an area 100 m by 30 m. The site is located on a gently southwestward sloping hillside, adjacent to a high dune. Small erosional channels are eroding through the site. Artifacts noted in the site include a single piece of El Paso Brown pottery, several metate and mano fragments, and a variety of waste flakes.

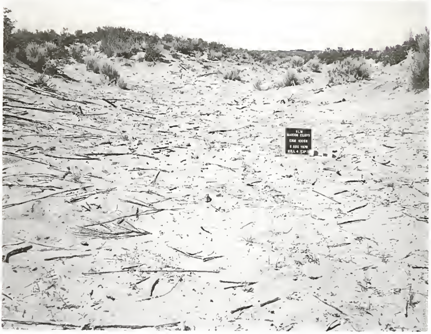

Fig. 21: ENM 10055. Overview of major blowout, looking west.

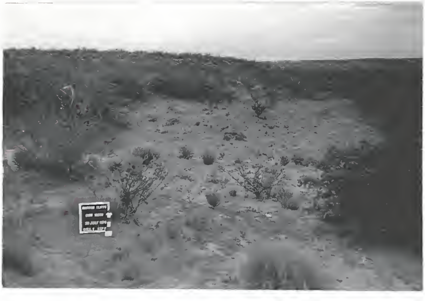

Fig. 22: ENM 10252. Overview looking north.

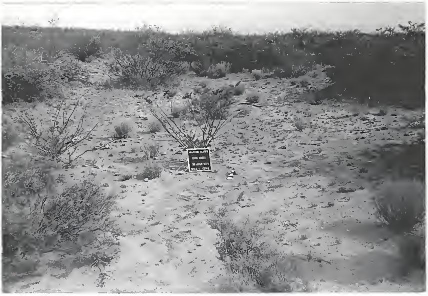

Fig. 23: ENM 10253. North end of site looking north.

ENM 10254 (Fig.'s 24, 25)

Location: NW¼ of the SE¼ of the NE¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595800, E603700

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10254 is a 30 m by 15 m scatter of burned stones, artifacts and fragmentary human bones blowing out of the side of a low dunal area. No specific hearth areas were recognized. Artifacts noted include hammerstones, metate and mano fragments, a quartzite core or chopper, and a variety of chert and quartzite waste flakes. A few badly weathered fragments of a human skull, including fragments of the upper and lower mandibles, were noted on the side of the dune in the east end of the site.

ENM 10255 (Fig. 26)

Location: NW¼ of the SE¼ of the NE¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595750, E603650

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10255 is a 50 m by 20 m scatter of burned stones and artifacts scattered through a densely overgrown area of stabilized dunes and blowouts near the rim of the cliffs. Four main concentrations were recognized within the site, but burned stone and artifacts are scattered extensively between them. Artifacts noted include mano and metate

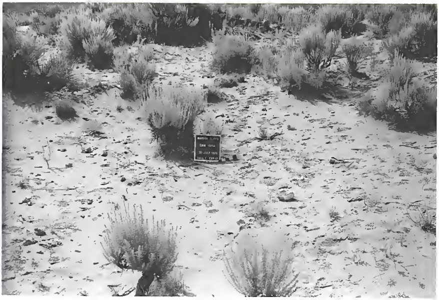

Fig. 24: ENM 10254. West portion of site looking southeast.

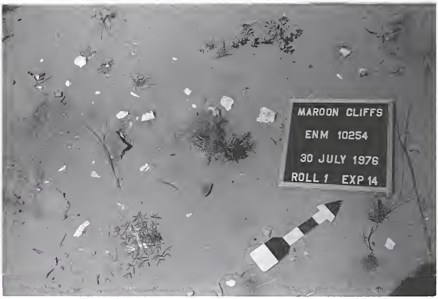

Fig. 25: ENM 10254. Close-up of human skull fragments.

ENM 10261 (Fig. 33)

Location: SE¼ of the NE¼ of the NW¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596050, E604550

Type of site: task locus

Cultural affiliation: Jornada Mogollon

10261 consists of a light scatter of flakes and burned caliche, a single El Paso Brown potsherd and a hammerstone. It covers an area approximately 20 m by 15 m in a series of blowouts among semi-active dunes.

This site was first recorded in 1975 as part of the Mississippi Chemical Company Caprock Water System project. At that time it was designated ENM 10043, which designation is hereby superseded.

ENM 10262 (Fig 34)

Location: SW¼ of the NW¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596000, E604750

Type of site: task locus

Cultural affiliation: Jornada Mogollon

10262 consists of 4 burned stone concentrations, several mano and metate fragments, a single El Paso Brown sherd and a sparse scatter of chert and quartzite flakes. It is located in a dunal area, with cultural material located in a series of adjacent blowouts.

This site was first recorded in 1975 by the ACA during the Mississippi Chemical Caprock Water System project. At that time it was designated ENM 10042, which designation is hereby superseded.

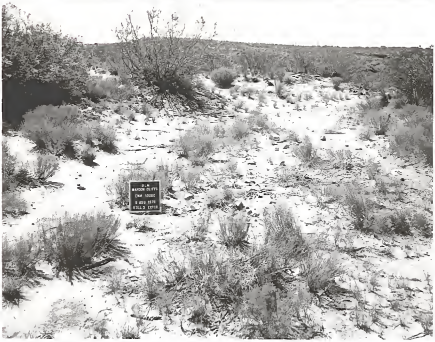

Fig. 30: ENM 10260. Central portion of site looking southeast. ENM 10044 is on hill in background. Note motorcycle trail at right.

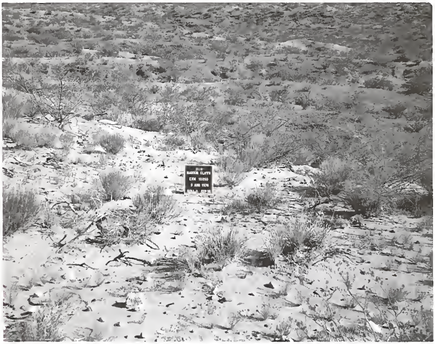

Fig. 31: ENM 10260. South edge of site looking over escarpment.

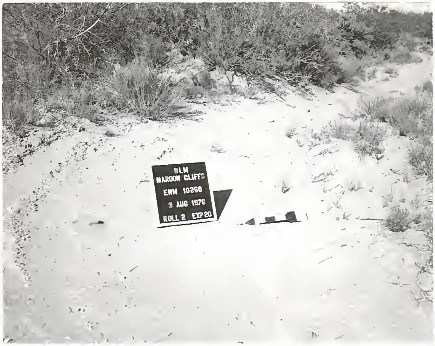

Fig. 32: ENM 10260. Arrow points to broken Archaic projectile point in situ in motorcycle trail, immediately west of site.

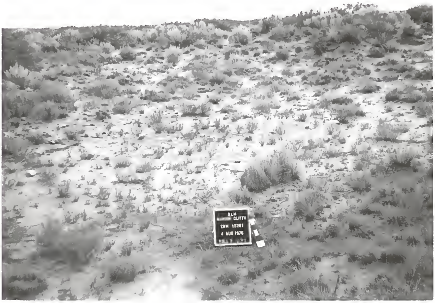

Fig. 33: ENM 10261. Overview of major blowout looking northeast.

ENM 10263 (Fig. 35)

Location: SW¼ of the NE¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595950, E605350

Type of site: task locus

Cultural affiliation: Jornada Mogollon

10263 consists of a 20 m diameter scatter of burned stone, pottery and flakes in a shallow blowout between small dunes. Two vague concentrations of burned stone possibly represent the remains of 2 fire hearths.

ENM 10264 (Fig. 36)

Location: NW¼ of the SE¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595950, E605200

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10264 is an extensive scatter of burned stone, flakes mano and metate fragments, and El Paso Brown pottery, spread nebulously through a complex series of blowouts among high dunes, 100 m in diameter. At least 5 concentrations of burned stone are evident.

ENM 10265 (Fig. 37)

Location: NE¼ of the SW¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595900, E605050

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10265 is an extensive scatter of burned stone and artifacts 50 m in diameter, scattered through a complex

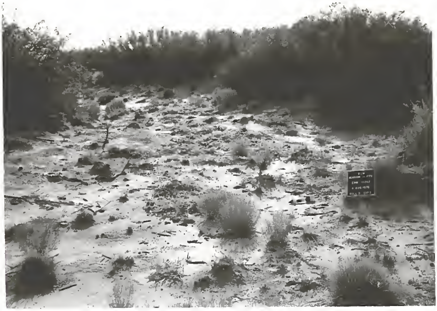

Fig. 34: ENM 10262. Overview of major blowout looking east.

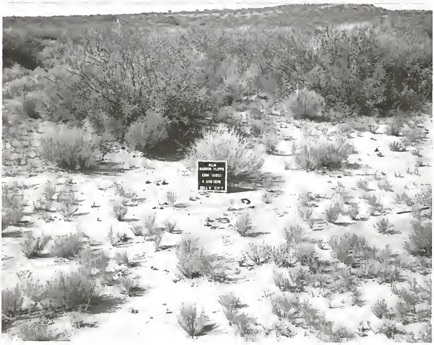

Fig. 35: ENM 10263. Overview looking south-southwest. ENM 10044 is on hill in background.

series of adjacent blowouts among semi-stabilized dunes. At least 5 concentrations of burned stone are evident. Artifacts noted include El Paso Brown pottery, mano and metate fragments, a core and numerous waste flakes.

This site is evidently the same as one which was designated ENM 10039 in 1975 by the ACA during the Mississippi Chemical Company Caprock Water System project survey. Notes from that project indicate that a broken, side-notched point or knife was found near the eastern edge of the site.

ENM 10266 (Fig. 38)

Location: SE¼ of the NW¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596150, E605100

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10266 consists of 2 burned stone concentrations in adjacent small blowouts. A single flake was found associated with 1 hearth area, and several nondescript ground stone fragments were found near the other. The site appears to be in the process of eroding out. It is approximately 12 m long and 4 m wide.

ENM 10267 (Fig 39)

Location: NE¼ of the NW¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596050, E605100

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

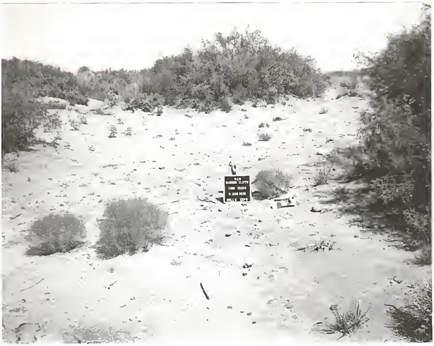

Fig. 36: ENM 10264. Main blowout looking west.

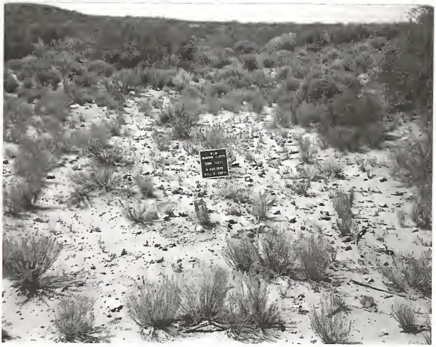

Fig. 37: ENM 10265. Major concentration looking south. ENM 10044 is on the hill in the background.

10267 consists of 5 concentrations of burned caliche, mano and metate fragments and scattered waste flakes. It is spread over an area 15 m diameter in several adjacent blowouts among high dunes.

ENM 10268 (Fig. 40)

Location: SE¼ of the SW¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595250, E604950

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10268 consists of a single stone hearth, an area of darkened soil, a few retouch chert flakes, mano and metate fragments and scattered burned stone. It is located on a gently northward sloping hillside in an area of water erosion between small brush covered hummocks. A motorbike trail which is fast becoming an arroyo passes through the site and is responsible for the recent exposure of the hearth and dark soil area.

ENM 10269 (Fig.'s 35, 41, 42)

Location: NE¼ of the SW¼ of the NW¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595900, E604200

Type of site: limited base

Cultural affiliation: Jornada Mogollon

10269 is a large site, stretching for 350 m along the rim of the Maroon Cliffs. The site consists of at least 5 concentrations of burned stone, mano and metate fragments,

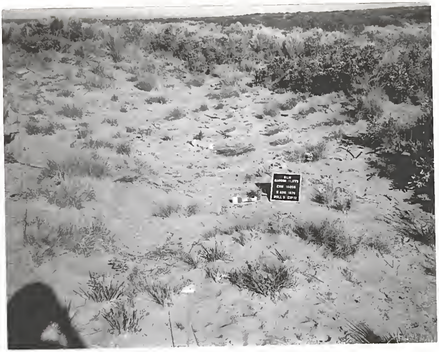

Fig. 38: ENM 10266. Overview of main blowout looking west.

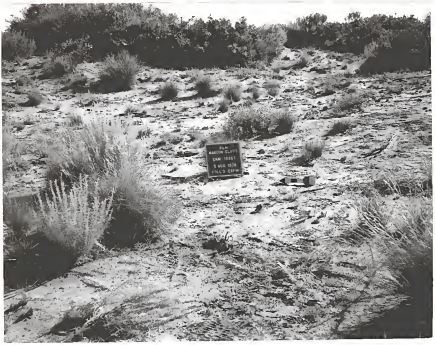

Fig. 39: ENM 10267. Overview of north blowout looking east.

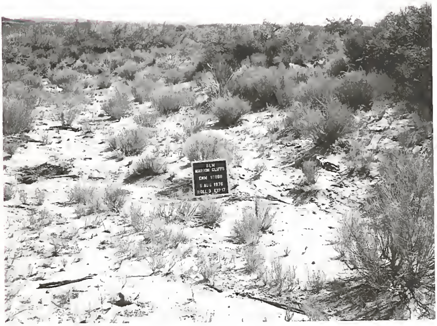

Fig. 40: ENM 10268. Overview looking northeast across motorcycle trail.

hammerstones, numerous waste flakes, occasional El Paso Brown potsherds, and a thin, crescentic, limestone chopping tool.

This site was first recorded in 1975 by the ACA during the Mississippi Chemical Company Caprock Water System project. At that time it was designated ENM 10041, which designation is hereby superseded.

ENM 10270 (Fig. 43)

Location: NE¼ of the NE¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Clayton Basin Quadrangle
UTM Zone 13, N3596250, E605550

Type of site: task locus

Cultural affiliation: unknown, probably Archaic or Jornada Mogollon

10270 is a 4 m diameter scatter of burned stones, mano fragments and flakes located in a small blowout in a semi-active dunal area.

ENM 10271 (Fig. 44)

Location: NE¼ of the NE¼ of the NE¼ of Section 9, T21S, R30E
USGS 15 minute series, Clayton Basin Quadrangle
UTM Zone 13, N3596350, E605350

Type of site: task locus

Cultural affiliation: unknown, probably Archaic or Jornada Mogollon

10271 consists of a single 5 m diameter scatter of burned stones, mano and metate fragments, utilized flakes and waste flakes. It is located in a long, narrow blowout in an area of semi-active dunes.

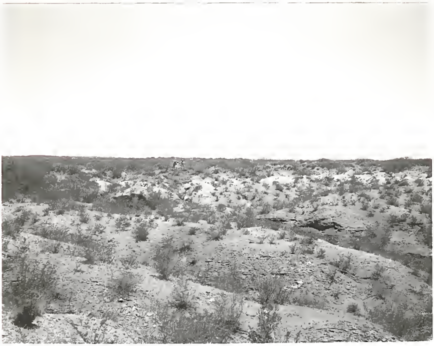

Fig. 41: ENM 10269. Distant overview of west end of site taken from promontory southwest of site looking north.

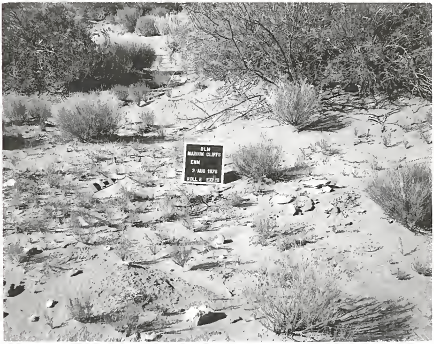

Fig. 42: ENM 10269. Close-up of artifact concentration.

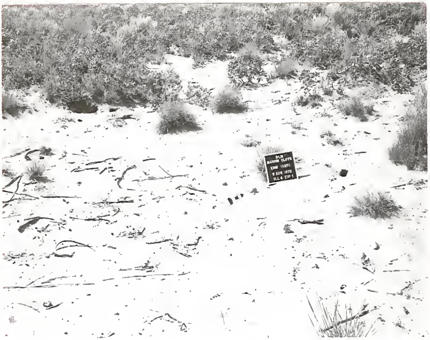

Fig. 43: ENM 10270. Overview looking northwest.

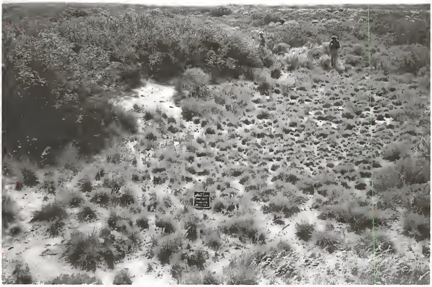

Fig. 44: ENM 10271. Overview looking west.

ENM 10272 (Fig. 45)

Location: SW¼ of the SW¼ of the SW¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594750, E602400

Type of site: task locus

Cultural affiliation: unknown, probably Archaic or Jornada Mogollon

10272 consists of 2 burned stone concentrations, mano and metate fragments, a utilized flake and several waste flakes, scattered through a 15 m by 5 m blowout in an active dunal area.

ENM 10274 (Fig. 46)

Location: NW¼ of the SE¼ of the NW¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595700, E602750

Type of site: limited base?

Cultural affiliation: Jornada Mogollon

10274 is a 50 m by 75 m, very heavy concentration of burned stone, artifacts and dark soil, located on the side of a large hilltop, adjacent to a steep escarpment. Artifact noted include numerous mano and metate fragments, occasional El Paso Brown potsherds, and numerous utilized flakes and waste flakes. This site contains the highest concentration of artifacts recorded in the survey. It has been recorded by the Lea County Archaeological Society, with the designation E-43.

ENM 10275 (Fig.'s 47, 48)

Location: SE¼ of the SW¼ of the NW¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595800, E602600

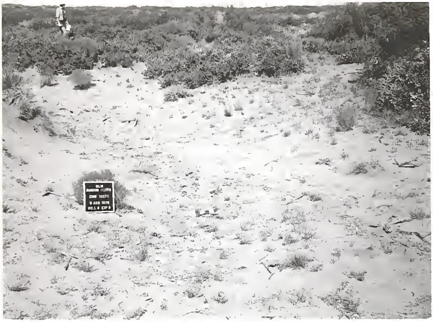

Fig. 45: ENM 10272. Overview of west end of site looking west.

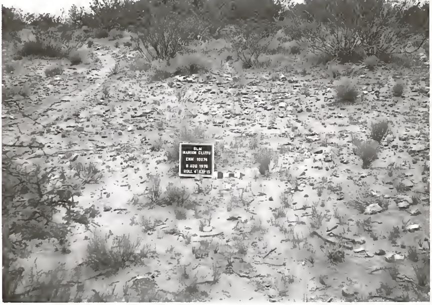

Fig. 46: ENM 10274. South-central portion of site looking west. Note motorcycle trail at left.

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10275 is a 50 m diameter scatter of burned stone and artifacts, located in a saddle between 2 high hilltops. Artifacts noted include mano and metate fragments and waste flakes. This site was recorded previously by the Lea County Archaeological Society as part of site E-43.

ENM 10276 (Fig. 49)

Location: NW¼ of the NW¼ of the NW¼ of Section 9, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596250, E604000

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10276 consists of 2 burned stone concentrations, metate and mano fragments and a single chert waste flake. It is situated in an area of stabilized dunes on a gently southwestward sloping hillside. Small water erosional channels are cutting through the site.

ENM 10279 (Fig.'s 50, 51)

Location: SW¼ of the NE¼ of the NW¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595900, E602000

Type of site: limited base

Cultural affiliation: Jornada Mogollon

10279 is a large, dense site located on the southeast slope of a small hill which constitutes part of a large ridge. Burned stone, dark soil and artifacts are scattered

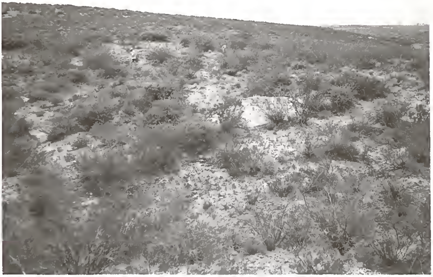

Fig. 47: ENM 10275. Overview looking northwest from hillside below ENM 10274.

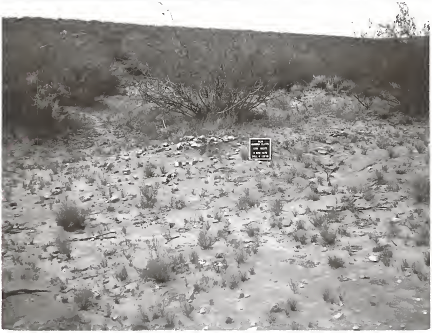

Fig. 48: ENM 10275. Artifact concentration near center of site.

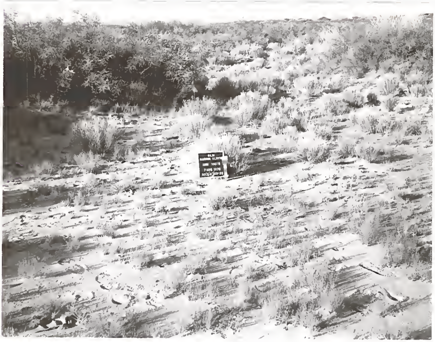

Fig. 49. ENM 10276. Overview looking south.

over an area 200 m by 150 m. Approximately a dozen concentrations of burned stone were noted. Artifacts observed include Jornada and El Paso Brown pottery, mano and metate fragments, hammerstones, utilized flakes and waste flakes.

The site has been partially disturbed by a fenceline and a road. This site was previously recorded by the Lea County Archaeological Society as part of site E-37.

ENM 10280 (Fig. 52)

Location: SE¼ of the NE¼ of the NW¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596000, E603050

Type of site: limited base?

Cultural affiliation: Jornada Mogollon

10280 is a large, dense scatter of burned stone and artifacts, located on the top and side of a small hill adjacent to a major escarpment. Dark soil, burned stone and artifacts are distributed over an area 300 m by 150 m. Numerous burned stone concentrations are evident. Artifacts noted include El Paso Brown pottery, hammerstones, mano and metate fragments, utilized flakes and waste flakes.

The site has been partially disturbed by a road and dirt bike trails.

This site was previously recorded by the Lea County Archaeological Society as part of site E-37.

ENM 10281 (Fig. 53)

Location: SE¼ of the NE¼ of the NW¼ and the SW¼ of the NW¼ of the NE¼ of Section 8, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596150, E603050

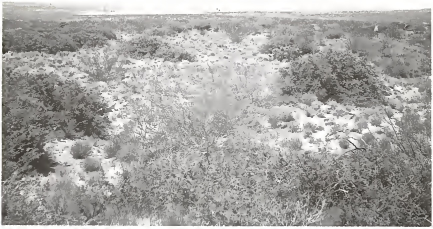

Fig. 50: ENM 10279. Overview looking west across hilltop toward Mississippi Chemical Corporation potash refinery.

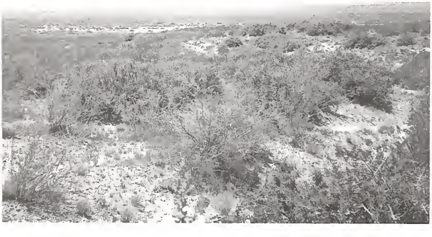

Fig. 51: ENM 10279. Overview looking southwest into Nash Draw.

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10281 is a 50 m diameter scatter of burned stone and artifacts, located on a gently northwestward sloping hillside among small, stable dunes. Several burned stone concentrations are evident. Artifacts noted include mano and metate fragments and waste flakes. Sheet erosion and small arroyos are damaging the site.

This site was previously recorded by the Lea County Archaeological site as part of site E-37.

ENM 10282 (Fig.'s 54, 55)

Location: NE¼ of the NE¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N35.3800, E603800

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10282 is a 200 m diameter scatter of burned stone and artifacts located in an area of sheet erosion and small stable dunes, on a gentle hillside. Several concentrations of burned stone are present. Artifacts noted include mano and metate fragments, scrapers, utilized flakes and waste flakes. The site has been partially disturbed by a road which passes close by the southwest edge, a caliche pit which has been excavated at the west edge, and a drill pad which is located at the north edge.

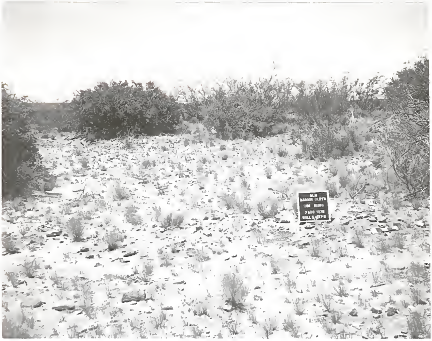

Fig. 52: ENM 10280. Overview of major artifact concentration looking west.

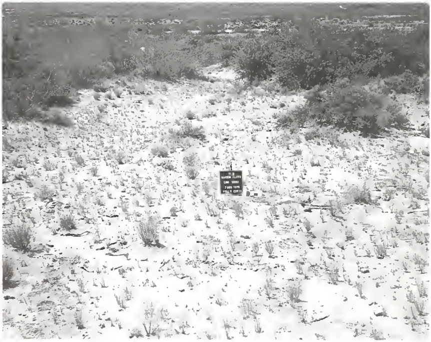

Fig. 53: ENM 10281. Overview looking downhill to the northwest.

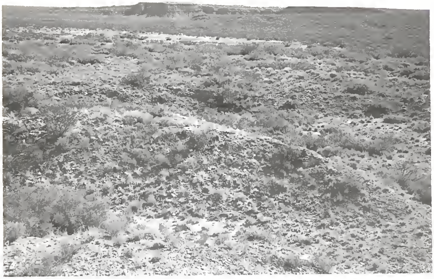

Fig. 54: ENM 10282. Overview looking northeast across caliche pit.

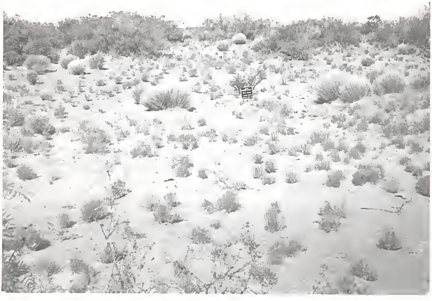

Fig. 55: ENM 10282. Artifact concentration near center of site looking west.

ENM 10283 (Fig. 56)

Location: SE¼ of the NE¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593500, E603850

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10283 is a 90 m by 30 m scatter of burned stone and artifacts in a dune blowout locality adjacent to a sheet-erosional plain. Burned stone is widely scattered, with vague local concentrations. Artifacts noted include mano and metate fragments and waste flakes.

ENM 10284 (Fig. 57)

Location: NW¼ of the SW¼ of the SWP of Section 16 and the NE¼ of the SE¼ of the SE¼ of Section 17, T21S R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593450, E604050

Type of site: limited base

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10284 is a 200 m by 50 m scatter of cultural debris in a series of blowouts at the edge of a dune complex, adjacent to a sheet-erosional plain. Burned stone, in concentrations and extensive scatter, is spread throughout the site. Artifacts noted include an Archaic dart point, hammerstones, mano and metate fragments, scrapers, utilized flakes and waste flakes.

ENM 10285 (Fig.'s 58, 59)

Location: NW¼ of the NE¼ of the NE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594600, E603700

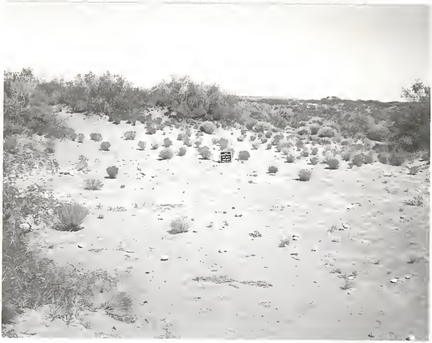

Fig. 56: ENM 10283. Overview looking northwest. Hill on horizon is gravel pile adjacent to ENM 10282.

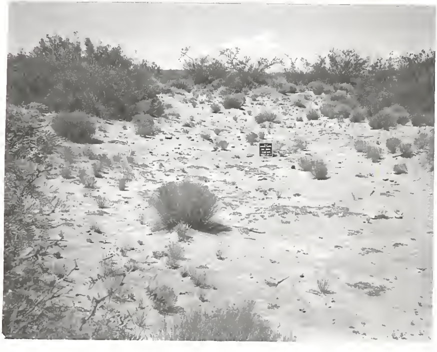

Fig. 57: ENM 10284. Central portion of site looking west.

Type of site: task locus

Cultural affiliation: Archaic

10285 is a 75 m diameter scatter of burned stone and flakes located in a sheet erosional area among scattered small dunes, adjacent to a deep wash. Several concentrations of burned stone are evident, 2 of which form rings ca. 1 m diameter. Artifacts noted on the site include waste flakes, a utilized flake and a single possible ground stone fragment.

Small erosional channels and widespread sheet erosion are destroying the site.

This site was originally recorded as ENM 10058 by the ACA in January 1975 during the Mississippi Chemical Company Caprock Water System project. The site was defined at that time as extending several hundred meters to the southwest to include a hilltop with sparse secondary scatter. Notes taken at that time indicate that an Archaic type dart point and a core were found in the site proper, and that pottery, ground stone and scattered flakes were found in the secondary scatter area on the hill.

ENM 10286 (Fig. 60)

Location: S½ of the SE¼ of the NE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594100, E603700

Type of site: limited base--historic, semi-permanent camp

Cultural affiliation: early 20th century American

10286 is an extensive scatter of historic artifacts, spread over an area 250 to 300 m diameter. It is located

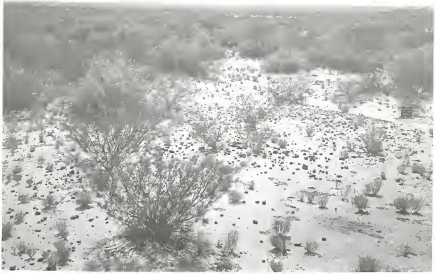

Fig. 58: ENM 10285. Overview looking southwest.

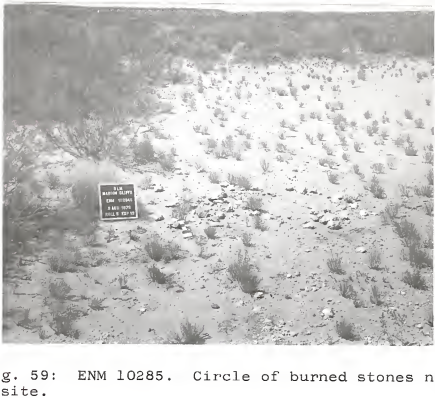

Fig. 59: ENM 10285. Circle of burned stones near center of site.

on the top and side of a hill and in an adjacent sheet-erosional plain. No evidences of permanent structures were noted, but pieces of stovepipe and framed screens present on the site may have been used with semi-permanent tents. Other artifacts noted include numerous rusty tin cans (condensed milk, tobacco, coffee, etc.); a badly rusted bucket containing nails, bolts, rivets and cotter pins; a mail box; fragments of inexpensive white and red porcelain; enamelware coffee pot and cup; a variety of broken glass bottles; and a harness hame.

The site is located near a road, between two caliche pits, and in the vicinity of several extensive erosion control features such as check dams, diversion canals, etc. A potash drill hole located at the south edge of the site has created an active water seep there.

ENM 10287 (Fig. 61)

Location: N½ of the SW¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593350, E603450

Type of site: limited base

Cultural affiliation: Jornada Mogollon

10287 is a 300 m by 75 m scatter of cultural debris, concentrated in a series of blowouts between a high dune ridge and a major arroyo. Concentrations of burned stone are numerous. Artifacts noted include El Paso Brown pottery, mano and metate fragments, hammerstones, cores, scrapers, utilized flakes and waste flakes. Motorcycle tracks are visible through some parts of the site.

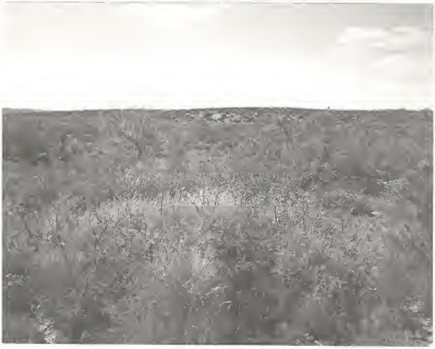

Fig. 60: ENM 10286. Overview looking northwest from ENM 10282. Potash drill hole marker at left center.

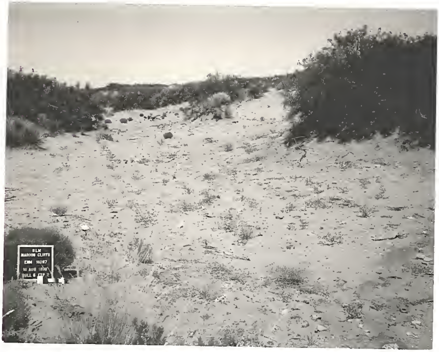

Fig. 61: ENM 10287. View of main blowout, west end of site, looking west.

ENM 10288 (Fig. 62)

Location: NE¼ of the SE¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593300, E603850

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10288 is a scatter of burned stone and flakes on a southwestward sloping hillside between a dunal hilltop and a major arroyo. Burned stone and scattered flakes are scattered through several small blowouts among low, stable dunes. Four main concentrations of burned stone are evident. No tools were noted on the site, but an Archaic dart point was found isolated on the hillside 75 m southwest of the site.

ENM 10289 (Fig. 63)

Location: NE¼ of the SE¼ of the SW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593400, E603150

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10289 is a 25 m diameter scatter of burned stone concentrations and artifacts in a series of adjacent blowouts on top of a high dune ridge. Seven distinct hearth areas are evident. Artifacts noted include mano and metate fragments, cores, utilized flakes and waste flakes.

ENM 10290 (Fig. 64)

Location: NW¼ of the SE¼ of the SW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593300, E602950

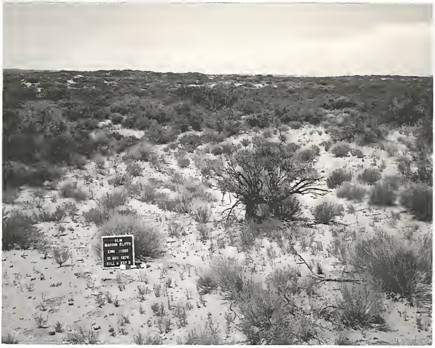

Fig. 62: ENM 10288. Main blowout looking west.

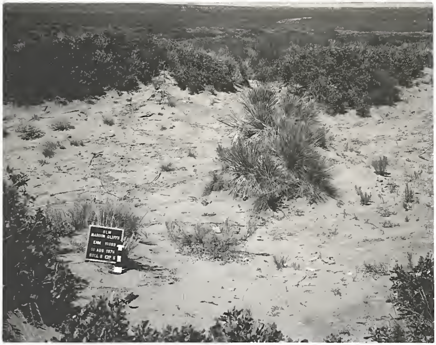

Fig. 63: ENM 10289. Looking north. Maroon Cliffs in background.

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10290 is a small site, consisting of 3 burned stone concentrations and artifacts in a single blowout 15 m in diameter, on a high dune ridge. Artifacts noted include mano and metate fragments and waste flakes.

ENM 10291 (Fig. 65)

Location: NW¼ of the SE¼ of the SW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593400, E602650

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10291 is a 15 m diameter scatter of burned stone and artifacts in a blowout among semi-stable dunes. Several concentrations of burned rock are evident. Artifacts noted include mano and metate fragments, a broken unifacial blade knife, utilized flakes and waste flakes.

ENM 10292 (Fig. 66)

Location: NW¼ of the SW¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593550, E603200

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10292 is located in a series of blowouts in an area of active and semi-active dunes, on the north side of a high dune ridge. Burned stone is scattered extensively in an area 30 m by 20 m, and at least 6 burned stone concentrations

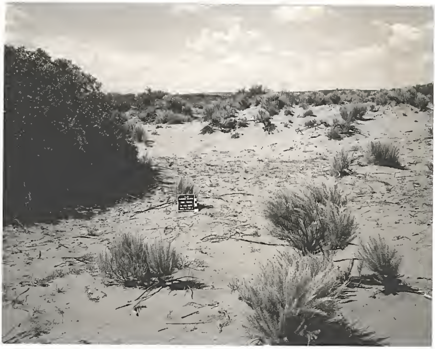

Fig. 64: ENM 10290. Overview looking north.

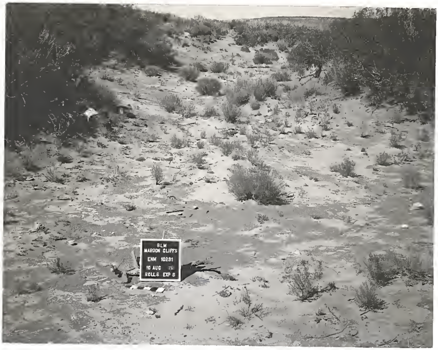

Fig. 65: ENM 10291. Overview looking east.

are evident. Artifacts noted include mano and metate fragments, El paso Brown pottery, scrapers, utilized flakes and waste flakes.

ENM 10293 (Fig. 67)

Location: NE¼ of the SW¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593450, E603500

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10293 is located in an active dunal area overlooking a major arroyo. Cultural material is scattered in blowouts and along the edge of dunes over an area 15 m by 5 m. Burned stone is widely scattered throughout the site, with concentrations in 2 blowouts. Artifacts noted on the site include Chupadero Black-on-white and Lincoln Black-on-red pottery, mano and metate fragments, bifacially flaked knives, utilized flakes and waste flakes.

ENM 10294 (Fig. 68)

Location: SW¼ of the NW¼ of the SW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593500, E602450

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10294 is a 15 m diameter scatter of burned stone and artifacts, located on a sheet-erosional surface among small coppice dunes on the west side of a hill. Artifacts noted include mano and metate fragments, scrapers, utilized

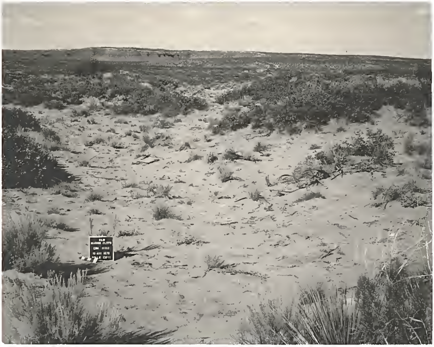

Fig. 66: ENM 10292. Looking northeast. Maroon Cliffs in distance.

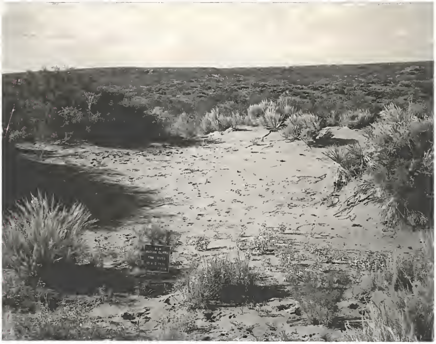

Fig. 67: ENM 10293. Looking north. Maroon Cliffs in distance.

flakes and waste flakes. The cultural material has apparently been rearranged by water erosion.

ENM 10295 (Fig. 69)

Location: SE¼ of the NE¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593650, E603450

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10295 is a 15 m diameter scatter of burned stones and artifacts, located on the top and side of a very low hilltop, among coppice dunes, adjacent to a major arroyo. Several concentrations are evident in the general scatter of burned stone. Artifacts are relatively scarce, but a hammerstone, mano and metate fragments and waste flakes were noted.

ENM 10296 (Fig. 70)

Location: SE¼ of the NW¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593700, E603550

Type of site: special activity locus and limited base

Cultural affiliation: Jornada Mogollon and 20th century American

10296 is a scatter of cultural debris on the top and northeast side of a very low hill near an arroyo. Burned stone, both in concentrations and extensive scatter, covers the entire site. Prehistoric artifacts noted include El Paso Brown pottery, mano and metate fragments and waste

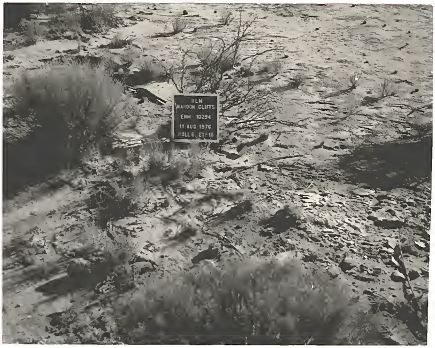

Fig. 68: ENM 10294. Center of site looking northeast.

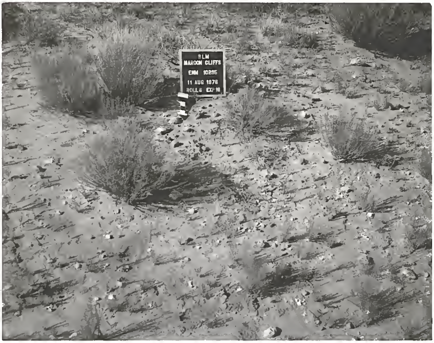

Fig. 69: ENM 10295. Artifact concentration near center of site looking north.

flakes. An historic component on top of the low hill contains numerous tin cans, tobacco cans, horseshoes, nails, insecticide sprayer, pail, barbed wire, steel straps and broken glass.

ENM 10297 (Fig. 71)

Location: NW¼ of the NW¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593750, E603300

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10297 is a 15 m diameter scatter of burned stone and artifacts located in several adjacent blowouts in the end of a long, sandy slope, adjacent to a major arroyo. Several concentrations of burned stone are evident in shallow blowouts. Artifacts noted include El Paso Brown, Jornada Brown and Playas Gouged-incised pottery; mano and metate fragments; scrapers; cores; utilized flakes; and waste flakes.

ENM 10298 (Fig. 72)

Location: NW¼ of the NE¼ of the SW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593800, E602800

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or
Jornada Mogollon

10298 is a 100 m diameter scatter of burned stone and artifacts located in a series of adjacent blowouts in the top of a high dune ridge. Several concentrations of

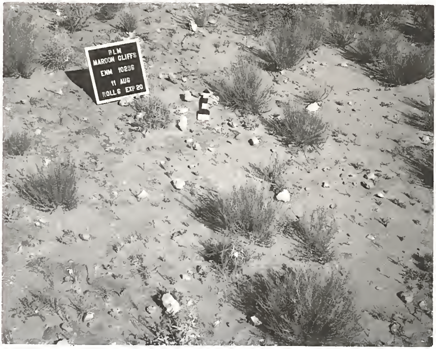

Fig. 70: ENM 10296. Artifact concentration near center of site.

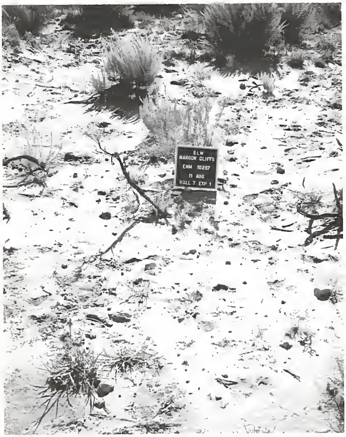

Fig. 71:

ENM 10297. Major artifact concentration looking east.

burned stone are evident. Artifacts noted include mano and metate fragments, scrapers and waste flakes.

ENM 10299 (Fig. 73)

Location: SE¼ of the SW¼ of the NE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593900, E603350

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10299 is a 100 m diameter scatter of burned stone and artifacts located on a gently sloping sheet-erosional area adjacent to a major arroyo. Several concentrations of burned stone are evident. Artifacts noted include mano fragments, a combination scraper-graver, a core and waste flakes.

ENM 10300 (Fig. 74)

Location: NW¼ of the NW¼ of the SE¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593850, E603200

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10300 is a 40 m by 40 m scatter of burned stones and artifacts occupying an irregular blowout in a high dunal area. Four concentrations of material are evident. Artifacts noted include mano and metate fragments, scrapers, a core and waste flakes.

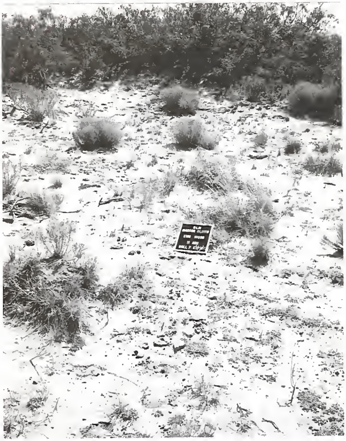

Fig. 72:

ENM 10298. Overview of main blowout looking northeast.

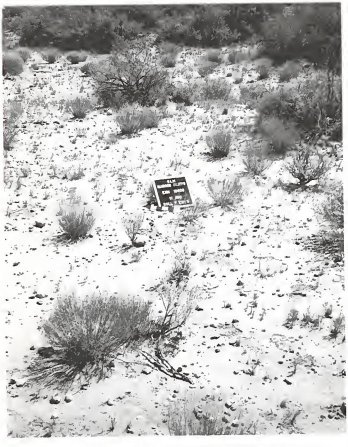

Fig. 73:

ENM 10299. Overview of main blowout looking northeast.

ENM 10301 (Fig. 75)

Location: SE¼ of the SE¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593950, E603100

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10301 is a 25 m by 10 m scatter of cultural material on a sheet-erosional plain adjacent to a receding belt of dunes. Burned stone, mano and metate fragments and waste flakes are widely scattered. A single sherd of El Paso Brown pottery was noted. Apparently the site was once in a dunal area which has washed away, leaving the artifacts exposed on the hardpan.

ENM 10302 (Fig. 76)

Location: SE¼ of the SE¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593900, E603000

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10302 consists of two burned stone concentrations and associated artifacts, located in interconnected blowouts in an area of semi-active dunes. Artifacts noted include mano and metate fragments, El Paso Brown pottery, utilized flakes and waste flakes.

ENM 10303 (Fig. 77)

Location: NW¼ of the NE¼ of the SW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594050, E602750

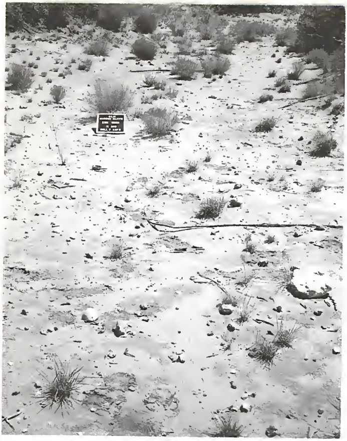

Fig. 74:

ENM 10300. Overview of main blowout looking northeast.

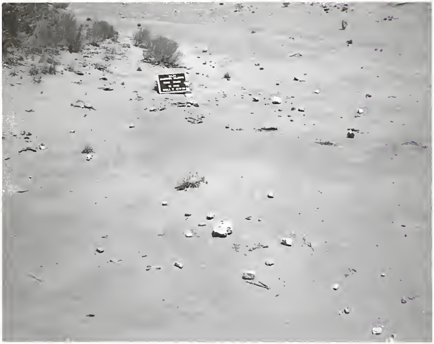

Fig. 75: ENM 10301. View of central portion of site looking north.

Type of site: task locus

Cultural affiliation: Jornada Mogollon

10303 is a 30 m diameter scatter of burned stones and artifacts located on the north slope of a high dune area, in a complex of shallow blowouts. Several burned stone concentrations are evident. Artifacts noted include El Paso Brown pottery, mano and metate fragments, utilized flakes and waste flakes.

ENM 10304 (Fig. 78)

Location: SW¼ of the SE¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594100, E602800

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10304 is a thin scatter of burned stone and artifacts 50 m in diameter, occupying a series of blowouts in a semi-active dune area. Artifacts noted include mano and metate fragments, a large chopper-scraper and waste flakes.

ENM 10305 (Fig.'s 79, 80)

Location: NW¼ of the SE¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3596150, E602950

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10305 occupies several contiguous blowouts in an area of active and semi-active dunes, adjacent to a sheet-

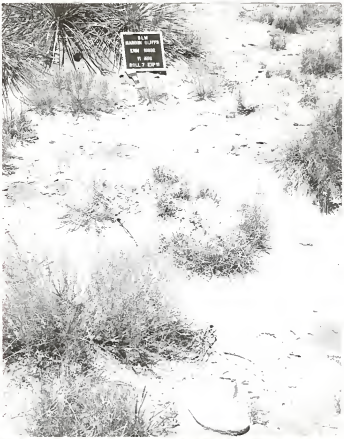

Fig. 76:

ENM 10302. Artifact concentration looking south.

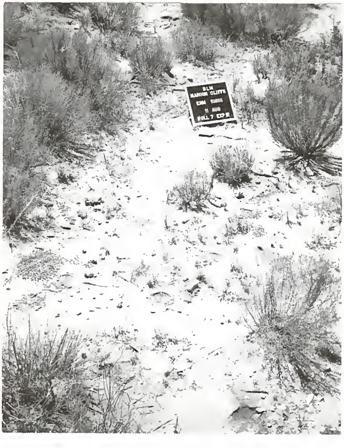

Fig. 77:

ENM 10303. Artifact concentration looking west.

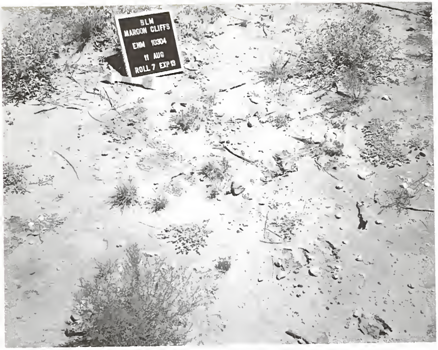

Fig. 78: ENM 10304. Artifact concentration looking northeast.

erosional plain. Two concentrations of burned stone, mano and metate fragments, a sandstone shaft smoother, El Paso Brown pottery, hammerstones, utilized flakes and waste flakes constitute the cultural remains. They occupy an area 60 m by 30 m. The site is partially disturbed by a motorbike trail which passes through it.

ENM 10306 (Fig. 81)

Location: SW¼ of the NW¼ of the NE¼ and the SE¼ of the NE¼
of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594350, E603150

Type of site: task locus

Cultural affiliation: unknown

10306 is a nebulous scatter of burned stone and occasional artifacts, occupying a flat sheet-eroded area among small brush hummocks. The only artifacts noted were a scraper and occasional waste flakes. All artifacts have been disturbed and rearranged by water erosion. A caliche surfaced road passes through the northeast portion of the site.

ENM 10307 (Fig. 82)

Location: NW¼ of the SW¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594250, E602450

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10307 occupies a single large blowout in the top of a high, dune covered hill. Cultural material is scattered

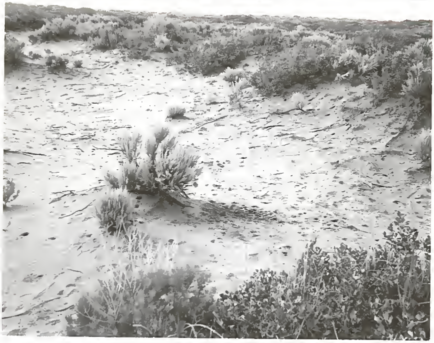

Fig. 79: ENM 10305. Main blowout looking southeast.

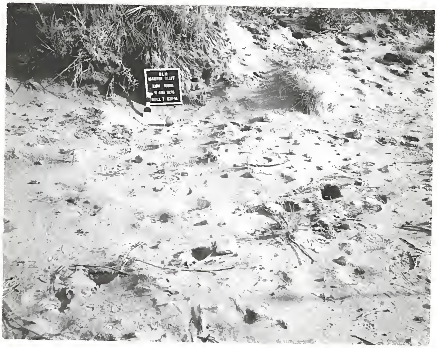

Fig. 80: ENM 10305. Artifact concentration.

inside the blowout over an area approximately 40 m in diameter. Two concentrations of burned stone are located near the center of the site. Artifacts noted include Jornada and El Paso Brown pottery, mano and metate fragments, hammerstones and waste flakes.

ENM 10308 (Fig. 83)

Location: NW¼ of the SW¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594350, E602450

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10308 occupies a large blowout in a dune covered hilltop. The site consists of 2 concentrations and a general scatter of burned stone, mano and metate fragments and waste flakes covering an area 30 m by 20 m.

ENM 10309 (Fig. 84)

Location: NE¼ of the NW¼ and the NW¼ of the NE¼ of the NW¼ of Section 17, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594500, E602800

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10309 is located in a series of blowouts at the very edge of a belt of active and semi-active dunes and adjacent to an erosional floodplain. The site consists of 3 main burned stone concentrations, a general burned stone scatter, hammerstones, mano and metate fragments, Jornada Brown pottery, a scraper, utilized flakes, a core, and waste flakes. It

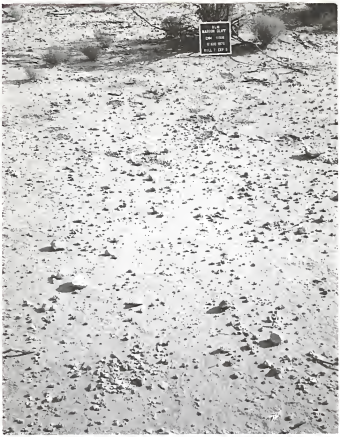

Fig. 81:

ENM 10306. Artifact concentration.

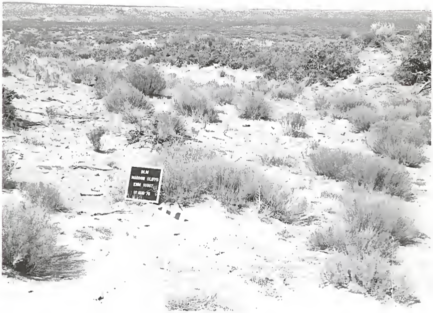

Fig. 82: ENM 10307. Overview looking northeast.

is scattered over an area 50 m by 100 m. A motorbike trail passing through the north end of the site has resulted in some disturbance.

ENM 10310 (Fig. 85)

Location: SW¼ of the NW¼ of the NW¼ of Section 14, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594450, E607200

Type of site: special activity locus

Cultural affiliation: Jornada Mogollon

10310 is located on a relatively steep slope (8-10°) on the rim of the Maroon Cliffs escarpment. Several concentrations of burned stone, a general burned stone scatter, a hammerstone, mano and metate fragments, El Paso Brown pottery and waste flakes are scattered over an amorphous area ca. 100 m in diameter. Immediately above the site, the slope levels out onto a broad, grassy bench.

ENM 10311 (Fig. 86)

Location: Center of S½ of Section 14, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595700, E608750

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10311 is a 150 m long, 100 m wide scatter of cultural debris located on alluvial bottom land in an area of hummocky coppice dunes, adjacent to a very large arroyo. The site is an amorphous scatter of burned stone and artifacts, with occasional local intrasite concentrations. Artifacts noted

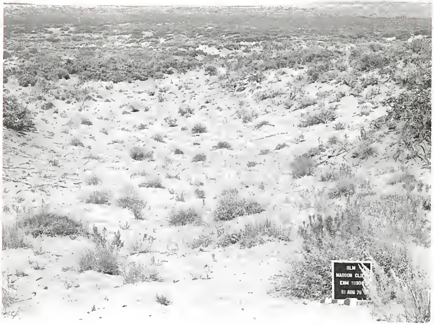

Fig. 83: ENM 10308. Overview looking east.

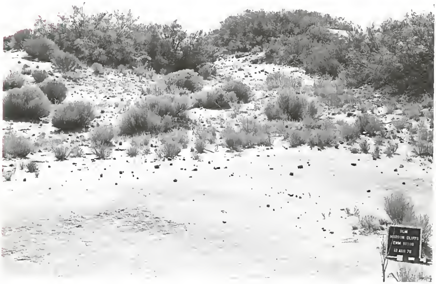

Fig. 84: ENM 10309. Major concentration, near north end of site.

include metate and mano fragments and waste flakes. A caliche surfaced road, now largely destroyed by arroyo cutting, passes through the southeast edge of the site, and a very large arroyo has cut into and destroyed part of the site. A widespread general artifact scatter surrounds the site for an unknown distance.

ENM 10312 (Fig.'s 87, 88)

Location: SE¼ of the SE¼ of the NW¼, and the SE¼ of the NE¼ of the SW¼ of Section 14, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3595700, E608750

Type of site: task locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10312 is located in an isolated open blowout on a flat area of low stabilized dunes and heavy nesquite thickets. It consists of a 20 m by 10 m light scatter of cultural material, including a burned stone concentration, mano and metate fragments and waste flakes. It is surrounded by a general scatter zone which extends to the south as far as ENM 10311.

ENM 10313 (Fig. 89)

Location: NE¼ of the NE¼ of the SE¼ of Section 11, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593550, E607800

Type of site: task locus

Cultural affiliation: Jornada Mogollon

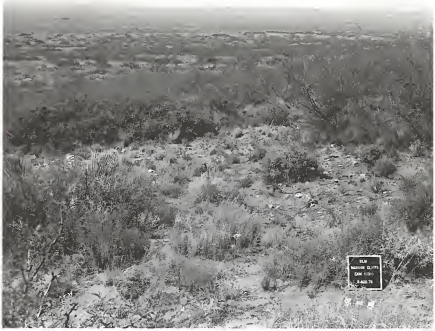

Fig. 85: ENM 10310. Overview of north end of site looking southwest into Nash Draw.

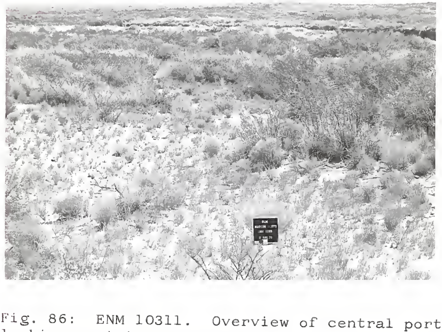

Fig. 86: ENM 10311. Overview of central portion of site looking east toward arroyo.

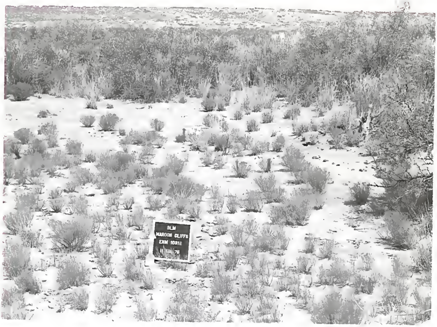

Fig. 87: ENM 10312. Overview looking north, Escarpment in distance.

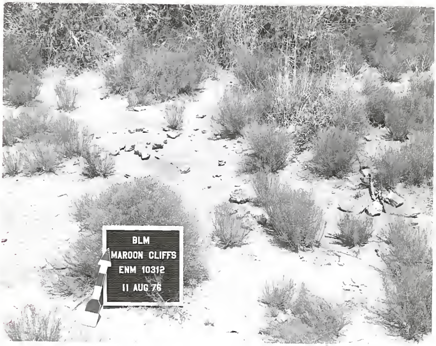

Fig. 88: ENM 10312. Hearth area, south end of site.

10313 is located in a dunal area at the top of the Maroon Cliffs escarpment. Four burned stone concentrations are scattered in blowouts within an area 100 m in diameter. Jornada Brown pottery and several waste flakes are associated with 1 concentration.

ENM 10314 (Fig. 90)

Location: NW¼ of the NW¼ of the NE¼, and the NE¼ of the NE¼ of the NW¼ of Section 15, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3594400, E606400

Type of site: task locus

Cultural affiliation: Jornada Mogollon

10314 occupies a series of contiguous blowouts in a dunal area near the rim of the Maroon Cliffs escarpment. Burned stone and artifacts are scattered over an area 80 m by 40 m. Artifacts noted include Jornada and El Paso Brown pottery, mano and metate fragments, hammerstones and waste flakes.

ENM 10315 (Fig. 91)

Location: NW¼ of the SW¼ of the SW¼ of Section 15, T21S, R30E
USGS 15 minute series, Nash Draw Quadrangle
UTM Zone 13, N3593500, E605700

Type of site: special activity locus

Cultural affiliation: unknown, probably Archaic and/or Jornada Mogollon

10315 occupies the east end of a dune covered point, overlooking Nash Draw and a major drainage which drops rapidly out of the Maroon Cliffs. The site is on the top and sides of a sandy hill, in several small blowouts. It

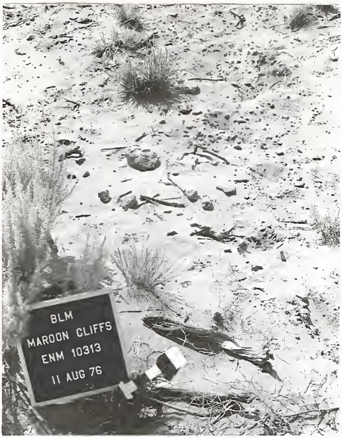

Fig. 89:

ENM 10313. Close-up of artifact concentration.

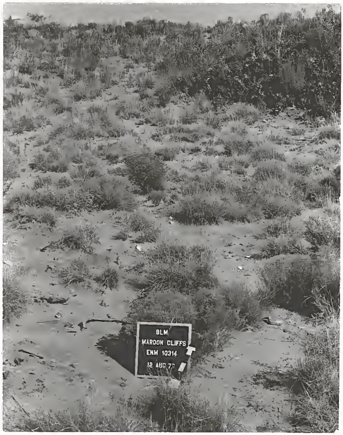

Fig. 90:

ENM 10314. Overview looking northwest.

covers an area ca. 30 m in diameter. Burned caliche is scattered lightly throughout the site, and several concentrations are evident. Artifacts noted include mano and metate fragments, a spokeshave and waste flakes.

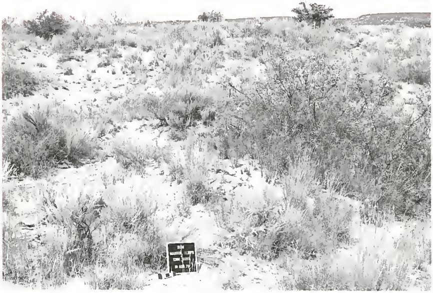

Fig. 91: ENM 10315. Overview looking northwest.

DISCUSSION

A School of American Research Seminar has recently defined 6 generalized kinds of non-permanent archaeological occupation (sites) with distinct personnel/behavioral structures. These are loosely defined as follows: (a) the *task locus*: a location at which an individual or group carries out a single action or narrow range of related actions; personnel involved usually represent considerably less than the full range of socio-biologic population, and the material culture to be expected is likewise considerably less than the full range available to the whole society; (b) *special activity zone*: location representing a small range of related tasks; associated personnel may or may not be somewhat more extensive than that for a task locus, material culture associated expected to be somewhat more varied, but still far from representative of the entire potential range; (c) *limited base*: reflects a somewhat wider range of socio-economic activities, usually as the result of occupation by a temporary community in which less than the full range of the socio-biologic population is engaged in less than the full range of economic activities; material culture will exhibit considerable variety but will be less than the full range for the whole society; (d) *home base*: defined as representing the occupational locale for the full community

which normally interacts on a regular basis; includes the full range of biologic population and a wide range of economi activities resulting in a broad range of economic activities which in turn result in a broad range of material culture inventory; (e) central base: somewhat more specialized, reflects the occupation of a community in which personnel representing the full biologic population for more than one home base congregate, usually on a temporary basis; socio-economic activities and resultant archaeological remains should reflect both the wide variety and complexity of the personnel; (f) occupation zone: a poorly delimited area reflecting incomplete fragmentary *en passant* or displaced activities, with relatively low "archaeological visibility."

We have attempted to apply this system of classification to the sites recorded in the present survey. This has of course necessitated the generation of a set of specific criteria which can be used as a basis for classifying real sites. The obvious approach to this task is to define activities in terms of artifacts (e.g. projectile points indicate hunting, scrapers indicate hide working, milling stones indicate preparation of vegetal foods, etc.).

A site is thus classified as "task locus" if one or perhaps two related activities were indicated in the artifact assemblage. It could either be a small site or a large one--the only necessary criterion is that the site must contain only artifacts which can be related to 1 or 2 related activities.

A "special activity zone" is defined as a site containing artifacts relating to a variety of unrelated or indirectly related activities, e.g. points (hunting) and milling stones (preparation of vegetal foods). The term "zone" suggests that a manifestation of this type should be large, perhaps larger than a task locus. In reality, we found that very small sites sometimes contain artifacts related to a variety of activities. It is therefore suggested that the term "locus" be substituted for "zone," and we shall use the designation "special activity locus" in this report. Again, there need be no relationship with site size, although special activity loci tend to be larger than task loci.

A site is identified as a "limited base" if, in addition to artifacts relating to a variety of activities, it contains evidence of heavy occupation but no evidence of permanent habitation. Although permanent habitation structures might conceivably be built for use seasonally, it is in the interest of workability to define any site containing such a structure as a "home base." A limited base may, however, contain temporary structures such as ramadas, etc.

A "home base," then, is a site which contains artifacts relating to a wide variety of activities in addition to evidence of permanent habitations. Wandering hunting and gathering groups would presumably generate no sites of this type.

A "central base" is a site which contains artifacts or structures suggestive of some specialized activity or activities, e.g. trading and/or ceremony, involving people from more than one home base. This is a very vague and ill-defined type of occupation, and presumably a hard one to recognize. It is doubtful that specific criteria for recognizing such a site can be stated with confidence.

An "occupation zone" would seem to correspond to "general scatter zone" as defined on page

We acknowledge the existence of several problems inherent in the use of this type of a classification. First, the implicit assumptions regarding artifact function are not tested in this area. If they are correct at all they are probably oversimplified. Second, the present artifact assemblage is undoubtedly biased by accidents of preservation and by selective collecting on the part of relic collectors. Third, it is not known whether permanent habitations of the prehistoric groups in this area would necessarily be evident in surface remains. Fourth, the same site may have been utilized for different purposes by different prehistoric groups or by the same group at different times of the year. For example, an Archaic "task locus" might be completely invisible within a Mogollon "special activity locus." Such problems can only be solved by excavation. Despite these problems, it is felt that a classification of this sort is useful as a preliminary step toward understanding the nature of prehistoric site morphology.

It should be stressed, however, that the classifications presented herein are tentative, and that tabulations based on them are useful only as preliminary hypotheses.

Using the above criteria, the following results were obtained (Fig. 92): of the total of 67 sites, 27 are classified as task loci; 32 fit the criteria presented for special activity loci, and 9 qualify as limited bases.* No home bases or central bases were identified within the survey, although 1 probable pithouse site located nearby (ENM 10316/LCAS E-27) was shown to us by Robert Leslie on 12 September. It is possible, of course, that some of the sites classified as limited base may, upon excavation, turn out to be home bases.

Figure 92 presents the locations of the different types of sites. It is interesting that 3 of the 9 sites classified as limited base, as well as the home base outside the survey, are located close together on hilltops convenient to both the bottom of the draw and the uplands above the escarpment. Other limited bases are located on the rim of the escarpment and in the draw in the vicinity of the arroyo in Section 17. Special activity loci are usually located on or near the escarpment rim, on dune

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*ENM 10296 contains both a prehistoric special activity locus and a historic limited base. This accounts for the discrepancy in numbers.

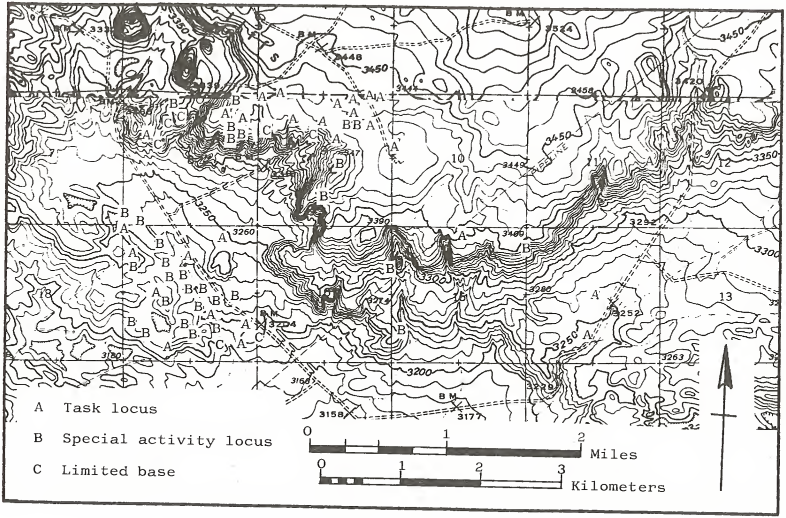

Fig. 92: Map showing location of sites, coded to show site type. Prehistoric sites only. (Adapted from U.S.G.S. Nash Draw and Clayton Basin Quadrangles, 15 minute series.)

ridges or hilltops, or adjacent to arroyos. Task loci are located in a variety of topographic locations. In Section 8, limited bases and special activity loci dominate the rim area, giving way to task loci away from the rim.

Assuming that these classifications approximate reality and that our usual assumptions of task specialization according to sex are justified, inferences can be drawn from the above date regarding the personnel structures of occupying groups. The limited bases are thus presumed to have been occupied by groups of mixed sex, representing all or part of a wandering band or a segment of a population which occupies a home base outside the survey area. Special activity loci were occupied by smaller but perhaps still mixed segments of the total community. The group occupying a task locus is presumed to have consisted of a few individuals of the same sex, involved in a specialized activity such as hunting and/or gathering of vegetal foods.

The only probable home hase which we have seen in the vicinity of Maroon Cliffs is ENM 10316 (LCAS E-27), located in Section 5 just outside the survey area. This site, according to the Lea County Archaeological Society, was once littered with relatively late ceramics including Ochoa Indented, El Paso Polychrome, Playas Gouged-incised, Lincoln Black-on-red, Ramos Polychrome and even a Pecos "Glaze C." It is the youngest site known in the immediate area. The limited base sites on the hilltops to the south

and east, on the other hand, produced pottery representative of earlier phases of the Mogollon occupation (Leslie and Runyan, personal communications). The implication is that the early Mogollon peoples did not reside permanently in the Maroon Cliffs vicinity, since (1) limited base sites would not be expected to occur close to the home base of their occupants, and (2) no earlier home base sites are known in the area. At the present time, it has not been definitely established whether the earlier Mogollon occupants of this area actually maintained permanent habitations anywhere. Leslie (personal communication) has suggested the possibility that the earlier Mogollon sites may represent an essentially Archaic culture with a salient veneer of pottery and arrow points. Whether they did or did not have a permanent home base, their relationship to the Maroon Cliffs area was likely similar or identical to that of their Archaic predecessors.

It is tempting to conceive of the typical Archaic or early Mogollon occupation as consisting of a band or a segment of a community moving into the area, perhaps seasonally, establishing a temporary base camp in a convenient location such as the NW¼ of Section 8, thence fragmenting into specialized social units for the exploitation of local resources. It is likely that this model is basically correct but represents only part of the total picture. Seasonal visitations to the area likely occurred several times

during the year, perhaps for different purposes, and some of these visitations may not have required more than a small camp in the immediate vicinity of the resource being exploited. We are not yet able to determine whether the visitations made to the area during a given year were made by (1) a single social group; (2) different segments of a single social group, visiting at different times; or (3) different social groups at different times.

The presence of projectile points and ground stone throughout the area suggests that both hunting and food gathering formed an important part of the prehistoric occupations, at least during Archaic and Mogollon times. However, it is not known exactly what species were exploited. Mesquite beans and acorns were probably important since both were commonly exploited by Indians of the Plains and Southwest. In the survey area, mesquite and acorns are both plentiful in areas of high site density. Grasses may very well have been important as well. Assuming that the faunal assemblage has not changed radically, it is likely that antelope, deer, jackrabbit and cottontail were important objects of the hunt, since all occur in the area today. Smaller rodents and a variety of birds are also present and may have been utilized. The results of analysis of faunal remains from the 1975 ACA excavation at Laguna Plata (ENM 10017), 8 miles northeast of the Maroon Cliffs, are of interest. Forty percent of the remains recovered were jackrabbit,

40% were antelope, 10% were cottontail, and the remaining 10% consisted of deer, bison, turtle, badger, gopher and sheep(?). Freshwater bivalve shells were found in a number of sites in the present survey, indicating another possible food source.

It is not considered likely that the Maroon Cliffs area was exploited for lithic resources. Stone suitable for flaking is present only rarely and in pebbles too small to flake usefully. Sandstone is present in small amounts in the survey area but is much more common in nearby exposures of the Gatuna and Santa Rosa Sandstone formations. Clay suitable for pottery manufacture appears to be absent in the area.

The above discussion reveals how little we really know about the archaeology of the Maroon Cliffs area. We know the approximate number of sites, the approximate sizes of the sites, and the site locations. In some cases, we can identify the culture which occupied the site and the approximate date of occupation. We know that the prehistoric occupants hunted animals and collected and processed plant foods in the area. We think we know that no prehistoric groups maintained permanent habitations there prior to very late Mogollon times.

What we do not know is precisely that body of information which justifies the existence of archaeology as a field of inquiry: What is the nature of the Archaic occupation? Does it represent a single annual visitation during

a certain part of the year, or recurrent visits during the year for the same or different purposes? What is the nature of the early Mogollon occupation? Is it similar to the Archaic occupation? Did the early Mogollon in this area operate out of permanent, horticulturally-oriented home bases, or were they essentially Archaic groups disguised under a salient veneer of pottery and arrow points? Were there changes through time in the personnel structure of occupying units? And if so, why? Did horticulture increase in importance during the 500 years of Mogollon occupation with a concomitant trend toward sedentism? Or did both horticulture and sedentism arrive fully developed with the appearance of pottery? Was horticulture ever really the economic base? What was the environment like during the different prehistoric occupations? What plant and animal species were exploited? Are Paleo-Indian and early historic Indian components present but not visible? If so, what were the natures of these occupations? What was the nature and composition of the social groups which utilized the area during the different periods? Do different sites represent different activities? If so, how does site function relate to site size and location? After years of artifact movement by collectors and natural erosion, to what extent do surface artifact inventories and distribution represent original site content and intrasite cultural patterning?

And without some control over the answers to some of these questions, how can archaeologists correctly interpret the findings of surface surveys?

In the absence of more meaningful information, we feel that our subjective view regarding the answers to some of these questions may be of some value, based as they are on a respectable amount of personal experience and observation. The following list of statements is therefore intended as a statement of some of these views, presented in the form of tentative hypotheses:

1. Both Archaic and early Mogollon occupations represent seasonal visitations to the area, the Archaic as part of an itinerant migratory round, the Mogollon from an unknown sedentary or semi-sedentary base.

2. As regards their specific relationship with the Maroon Cliffs area, the early Mogollon exploitative strategy was not unlike that of the preceeding Archaic in terms of species exploited and site location. Both groups visited the area to hunt rabbits, antelope, deer and rodents, and to gather mesquite beans, acorns and possibly grasses.

3. By the end of the Mogollon occupation, people were residing permanently in the area and subsisting on a horticultural base supplemented by hunting and gathering. This development probably resulted from population growth in other areas, necessitating the colonization of marginal areas.

4. Paleo-Indian and early historic Indian groups utilized the area but their remains are not archaeologically recognizable. Camp sites of nomadic hunting groups are generally characterized by a scarcity of non-perishable, diagnostic artifacts.

5. Surface cultural material is for the most part meaningfully patterned, despite widespread erosion and collecting. Systematic collection can thus provide meaningful clues to intra-site activity patterns and site functions.

These hypotheses can be tested, and the above questions answered only through a rigorous program of analysis of surface remains and subsurface testing. Until such a program is undertaken, no amount of surface survey can provide the important answers. Unfortunately, at the rate at which site deterioration due to natural erosion, off-road vehicle activity and relic collection is increasing, the opportunity to accomplish such a program may soon vanish.

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APPENDIX

DESCRIPTION OF PROJECTILE POINTS

Points are described in order of their appearance in Figures 12 and 13. All points in Figure 12 were collected during the present survey. Those in Figure 13 were observed and sketched by an ACA team working in the same area in 1975.

Fig. 12a. Red-brown coarse chert, 40 mm long, 33 mm maximum width, 7 mm thick. 14 mm across narrowest part of neck. Edges convex, pressure flaked, converge at ca. 45-50° to a sharply protruding tip. Broadly side notched, slightly asymmetrical. Base convex, thinned by removal of several longitudinal flakes on each side.

Fig. 12b. Mottled gray and brown chert. 30 mm long, 32 mm maximum width, 4 mm thick. 16 mm across narrowest part of neck. Edges approximately straight, converging at 60-65° toward tip. Flaking irregular and crude, some pressure flaking. Broadly side notched, convex base nearly as wide as shoulders. Base thinned by removal of several longitudinal flakes on each side.

Fig. 12c. Coarse reddish-orange chert or orthoquartzite. Length ca. 50-70 mm, width 30 mm across barbs, maximum thickness ca. 6 mm. 11 mm wide across end of stem. Barbed, wide shoulders, tapering 12 mm long stem.

Fig. 12d. Coarse, white chert. 33 mm long, 25 mm maximum width, 3-4 mm thick. Ca. 15 mm across poorly defined

neck. Slightly convex edges converge to dull point at ca. 50°. Flaking crude. Ill-defined shoulders, convex base. Base thinned by removal of longitudinal flakes on both sides.

Fig. 12e. Gray-tan and charcoal brown mottled chert. 46 mm long, 16 mm maximum width, 5 mm maximum thickness. 11 mm across neck. Edges serrated, slightly convex, converge at ca. 25°. Side notched, near base, base nearly as wide as shoulders. Convex base, thinned by removal of longitudinal flakes, one of which resembles a flute. Well flaked.

Fig. 12f. Tan and gray-tan banded chert. 50 mm long, 15 mm wide, 5 mm thick. 11 mm across neck. Edges convex, partly serrated, parallel from shoulders to midway between shoulder and tip, then converge at ca. 60°. Shouldered with slight barbs, slightly expanding stem. Slight bifurcation of stem due to basal notch resulting from removal of small, longitudinal flakes.

Fig. 13a. "Gray chert." 33 mm long, 20 mm wide across base, thickness unknown. 13 mm wide across neck. Rounded side notches, convex base. Edges convex, converge at ca. 60°. Base thinned by removal of longitudinal flakes. ENM 10033.

Fig. 13b. "Dark gray chert." 32 mm long, 19 mm maximum width, thickness unknown. 11.22 mm across neck. Edges straight, converge at 55-60°. Broadly side-notched. Wide, convex base nearly as wide as shoulders. Base thinned by removal of small, longitudinal flakes. ENM 10258 (formerly ENM 10038).

Fig. 15c. "Chert." 34 mm long, ca. 17 mm wide, thickness unknown. Neck width 12,8 mm. Edges convex. Indistinct side notches create constriction at lower half of point. Base concave. ENM 10260 (formerly ENM 10040).

Not illustrated. "Dart point." No details. ENM 10285 (formerly ENM 10058).

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